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EFFECTIVENESS OF INSTRUCTIONAL TAPES FOR CHANGING REGIONAL SPEECH PATTERNS.

BY- GOLDEN, RUTH I.

DETROIT PUBLIC SCHOOLS

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AN AUDIOLINGUAL LABORATORY TECHNIQUE FOR IMPROVING RURAL SPEECH PATTERNS OF DISADVANTAGED STUDENTS WAS EVALUATED. THE SAMPLES CONSISTED OF 72 HIGH SCHOOL STUDENTS WHO WERE DIVIDED EQUALLY AMONG EXPERIMENTAL AND CONTROL GROUPS. A SERIES OF LESSONS ON ENGLISH USAGE FOR LISTENING AND REPETITION WERE ADMINISTERED TO THE EXPERIMENTAL GROUP. THESE LESSONS WERE RECORDED ON TAPE AND TRANSMITTED BY EARPHONES TO THE 10TH-GRADERS IN THE GROUP. PRE- AND POST-TESTS AND AN ATTITUDE SURVEY WERE ADMINISTERED. TAPE TEACHING WAS SUCCESSFUL IN HELPING STUDENTS TO IMPROVE THEIR SPEECH PATTERNS. FURTHER STUDIES WERE SUGGESTED TO DETERMINE THE RELATIONSHIP BETWEEN SPEECH INADEQUACIES AND POOR ACHIEVEMENT IN OTHER FIELDS. (RS)

559

EFFECTIVENESS OF INSTRUCTIONAL TAPES FOR CHANGING REGIONAL SPEECH PATTERNS

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FINAL REPORT

Title VII Project Number 559
National Defense Education Act of 1958
Grant Number 720099

BY
RUTH I. GOLDEN

DETROIT PUBLIC SCHOOLS
DETROIT, MICHIGAN
1962

The Research Reported Herein Was
Supported by a Grant from the
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PREFACE

The problem of how to change a language pattern has become one of major concern in northern inner-city schools. The students depend upon the schools to effect the changes necessary for moving into the so-called white-collar jobs to which many aspire, but present methods have little apparent effect upon changing their language patterns to usages more acceptable to employers.

Out of many interviews and visits to schools during a year (1955-56) which the author spent in defining the problem as a Ford Fellow, and from work on the book which summarized the study, grew the idea that a type of English Language Laboratory seems most promising as a method for meeting the need.

The application of this method in Detroit began in the fall of 1956 with attempts to develop and to use English lessons on tape at Northeastern High School. These attempts pointed up the fact that time was required to prepare and to test a series of lessons using attitudes and approaches that seemed successful in reaching the students who needed help. The time was provided by a two-year grant (1960-62) from the Office of Education under Title VII of the National Defense Education Act of 1958.

Individuals connected with the Office of Education to whom thanks are extended are Sterling M. McMurrin, U. S. Commissioner of Education; C. Walter Stone, Director of the Educational Media Branch; Kalmer E. Stordahl, Research Coordinator; Arno Jewett, Specialist for Secondary-School English; and the two interviewers, William F. Seibert and Seth Spaulding.

Wayne State University provided the background of knowledge necessary for this investigation. William E. Hoth, Head of the Department of Secondary English, Speech, and Foreign Language, who has been adviser to the study, and Joseph E. Hill, Assistant Dean, who has supervised the statistical phase, have both been stimulating and kind. Other Doctoral Committee members, James Patton McCormick, Secretary of the Board of Governors; Roland Faunce, Professor of Secondary Education; and August Kerber, Head of the Department of Educational Sociology, have given encouragement. Robert Kilbourne was a welcome source of advice during the taping. The efforts of all of these men are greatly appreciated.

This study could not have been undertaken without the sanction, interest, and financial backing of the Detroit Board of Education. Thanks go particularly to Samuel Miller Brownell, Superintendent of Schools; Remus Robinson, M. D., Past President of the Board of Education; Paul T. Rankin, Special Assistant to the Superintendent; Robert Lankton, Director of Instructional Research; and Edward Lane, Business Manager.

Appreciation is extended to Charles S. Lewis, Principal, and to William Arbaugh and Jessie Kennedy, the Assistant Principals of Central High School for their active interest. Dr. Lewis gave the manuscript its first critical reading. Mrs. Kennedy was one of the four special investigators and was also one whose voice was recorded.

The other investigators, each from a different school, were Paul Onica, whose voice can be heard in the tapes, Marvin Greene, whose linguistic background was valuable, and Genevieve Repeta, who did much of the clerical work. Ava Kerr is responsible for the excellent typing. Elizabeth and William Stephenson, the speech correctionists, devoted hours of time to evaluating the taped tests, and Garnett Bradley, of Station WEXL-WOMC, deserves thanks for time spent as recording engineer.

Special gratitude goes to Anne Lukes Shank, co-teacher, who also helped to record the lessons. Other voices used are those of Ernestine Campbell and of my husband, Judge David L. Golden.

The following educators pointed the way to related studies: James R. Squire, Harold B. Allen, Raven I. McDavid, Jr., Margaret Early, and Virginia Allen. Appreciation to them extends to friends James E. Conner and George Hallock for their interest and advice.

To husband Dave and to our daughter, Pat, go the most loving expressions of appreciation for their understanding and sound critical judgment.

Many others have contributed in various ways. To all go the writer's thanks and a share in the hope that this project will provide teachers with a tested method of meeting an educational problem, and will point the way toward helping many students.

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CHAPTER I

INTRODUCTION

Background of Study

Through language symbols, oral and written, education is conceived, transmitted, and put to use. The very nature of education, as Allport says, "is the socialization and training of the individual through language symbols."[1] Conversely, through the individual's use of language and his way of speaking, judgments are made as to his training, his socialization, and his education.

> Language is the basic instrument through which human beings share their thinking. If a youth is to develop as an individual, contribute to society, and participate in its benefits, he must have command of the social processes of language.[2]

Yet the schools do not seem sufficiently aware of this. Through providing courses and contests in the speech arts, the schools have shown some awareness of the extent to which positive judgments based on speech lead to success. It is time to help students eliminate negative judgments based upon the spoken word by facilitating their speech improvement.

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[1] Floyd H. Allport, Social Psychology (Boston: Houghton Mifflin Co., 1924), p. 197.

[2] Thomas Clark Pollock et al., "The English Language in American Education," A Report of the Modern Language Association Commission on Trends in Education, 1945, Issues, Problems, & Approaches in the Teaching of English, ed. George Winchester Stone, Jr. (New York: Holt, Rinehart and Winston, Inc., 1961), p. 137.

In urban centers to which Conant, Ribicoff, Sexton, and others have pointed as the sore spot in our educational system, we must give serious attention to the increasing numbers of high school students whose Regional speech is now inadequate as a medium of communication and puts them at a disadvantage in competing for jobs, and in social acceptance.

The insecurity and frustration which accompany feelings of inadequacy regarding so personal a possession as one's speech may breed many ills. Secretary Ribicoff said in October, 1961:

> Thousands of youngsters in our big cities, out of school, out of work, untrained for jobs by unrealistic school programs, discriminated against by employers and by unions--these youngsters can scarcely join in the building of a strong America. They lack the opportunity.[3]

We must help these students change from the language of their own community to the speech common to northern urban areas, generally accepted as "standard."

Regional Speech

Regional speech, one of the major types of language differences discussed by Fries and by Francis, has been the subject of scientific study by researchers and writers since 1928 when work on the Linguistic Atlas of the United States and Canada began.[4] The particular form of Regional speech with which this study is concerned and into which large numbers of students shift as soon as they are out of the classroom, contains usages corresponding to Pooley's illiterate and homely levels, and too frequently is the student's only means of communication.

---

[3] Abraham Ribicoff, "Plain Words from Mr. Ribicoff on Dropouts," *School Life*, XLIV, No. 3 (Nov.-Dec., 1961), p. 14.

In a study financed by a grant from the Fund for the Advancement of Education, published in 1960, the author defined the problem of Regional speech as it exists in Detroit. She found that the pattern retained by a great many migrants, and children and grandchildren of migrants, particularly from southern rural areas, is characterized by lack of agreement between subject and verb, trouble with tenses and auxiliaries, misplacement of the consonant s, and the use of many antiquated, non-standard expressions. Characteristic too is the general dropping of final consonants; the substituting, adding, or blurring of others; and the frequent substitution and elongation of vowels. These are accompanied by differences in pitch, stress, and juncture.[5]

---

[4] Among the scholars who have worked with Hans Kurath on the Linguistic Atlas project, or have written about it, are: Harold B. Allen, E. Bagby Atwood, Bernard Bloch, James W. Downer, Mrs. Yakira H. Frank, Miles L. Hanley, Einar Haugen, Sumner A. Ives, Martin Joos, Albert H. Marckwardt, Raven I. McDavid, Jr., Otto Springer, and Lorenzo D. Turner. A brief description of the early work is found in Chapt. 7, "Regional and Social Variations," Albert H. Marckwardt, American English (New York: Oxford University Press, 1958), pp. 131-50.

Northern Urban Speech

Northern Urban speech in its informal and formal levels, including the variations of usage common among educated people, as Pooley describes "standard" English, "is, in fact, _the language_; it is present, ordinary, comfortable usage, with sufficient breadth in limits to permit of the shades of difference appropriate to specific occasions."[6] This "standard" dialect, in its informal usage, is the goal we expect students to attain. It is, in general, the form of the language used by the U. S. Information Service to teach English through its 389 cultural centers in 80 countries.[7] As Fries says, it is standard only because it is the type of English used to conduct the major affairs of the nation and is the type used by the socially acceptable in most of our communities.

---

[5] Ruth I. Golden, _Improving Patterns of Language Usage_ (Detroit, Michigan: Wayne State University Press, 1960), pp. 3-65. There is little time in the high school English program for a detailed linguistic study of the supra-segmental phonemes. See Kenneth Pike, _The Intonation of American English_ (Ann Arbor, Michigan: University of Michigan Press, 1945). These can best be taught through imitation.

[6] Robert C. Pooley, _Teaching English Usage_ (New York: Appleton-Century-Crofts, Inc., 1946), pp. 19-20.

[7] Lincoln Barnett, "The English Language," _Life_, March 2, 1962, p. 75.

Migration

Speech improvement has become a major urban educational problem because of the influx of white and Negro workers from the South, 181,600 Negroes within the past ten years into Detroit alone.[8] This is a part of a migration which linguists call an "exodus." When people migrate from their homeland, according to Pei, they are more likely to keep their language intact than do those who stay behind. He explains that ". . . language tends to break up into local varieties whenever contacts are lost and political unity ceases to exert its pull toward the center."[9] We need to strengthen contact with these youth rather than to permit islands of speech to develop.

Language Handicap

Fries writes:

> It is clear that anyone who cannot use the language habits in which the major affairs of the country are conducted, the language habits of the socially acceptable of most of our communities, would have a serious handicap.[10]

Except as measured by dropout figures, unemployment quotas, delinquency and crime rates, and other types of social statistics, which would be a study by itself, we have no way of knowing the extent of harm caused by a language handicap. Stack refers to "social and dialectical (sic) differences that arouse fear and distrust." He reminds us that until we are in a situation where we cannot make our thoughts and wishes known because of a difference in language, we cannot appreciate how much we value our ability to do so. He states, "It is a universal human trait to shun the unusual and unfamiliar."[11] Myrdal also mentions "unusual" speech as a factor contributing to prejudice because language and culture function together.[12] As Sapir has described, "Languages are more to us than systems of thought-transference. They are invisible garments that drape themselves about our spirit and give a predetermined form to all its symbolic expression."[13]

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[8] "Michigan--Decline in Detroit," Time, October 27, 1961, p. 27.

[9] Mario Pei, The Story of Language (New York: The New American Library of World Literature, Inc., 1960), p. 40.

[10] Charles Carpenter Fries, American English Grammar (New York: Appleton-Century-Crofts, Inc., 1940), p. 14.

The Task of Teachers

While many forces work together to bring about cultural change, the schools must lead, for through education man expedites change and thus has a measure of control over his environment. Confronted with immediate needs of students, we do not wait for the forces of social change to eliminate negative judgments based on speech which may mark students unemployable and socially unacceptable. Although questioning that traditional methods can accomplish these language changes, Fries declares: "It is the assumed obligation of the schools to attempt to develop in each child the knowledge of and the ability to use the 'standard' English of the United States. . . ."[14]

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[11] Edward M. Stack, The Language Laboratory and Modern Language Teaching (New York: Oxford University Press, 1960), p. 3.

[12] Gunnar Myrdal, Richard Sterner, and Arnold Rose, An American Dilemma (New York: Harper and Brothers, 1944), II, 956-66.

[13] Edward Sapir, Language (New York: Harcourt, Brace and Co., Inc., 1949), p. 221.

The Modern Language Association points up the reason why work on the secondary level must run concurrently with the efforts of the linguists to describe language differences:

> It is the task of linguistic science to describe speech forms and their development objectively. It is the task of the teacher of English, on the other hand, to help students master the accepted speech forms of the community in which they live. Correctness alone is not the goal of language study, and a false notion of "good" English may be pernicious. But in a very real sense there are in any given situation speech forms which are incorrect, and in any community there are definite linguistic standards. The teacher should avoid inherited misconceptions and learn from linguistic science as well as from his own observation what these standards are.[15]

In 1960, the NASSP Committee on Curriculum Planning and Development declared that:

> The English language arts teacher has two positive functions:
>
> 1. To improve each student's ability to convey information, ideas, and emotions, both in speaking and in writing, as clearly and effectively as possible;

---

[14] Fries, op. cit., p. 15.

[15] Pollock, op. cit., p. 126-27.

> 2. To improve each student's ability to receive, through reading, viewing, and listening, the information and inspiration available to him through spoken and written English.[16]

Along with other worthy policies, the Committee further advised that:

> All teachers share with English teachers the responsibility for maintaining high standards in the use of the English language arts. At all times, each teacher should insist that good English be used by his students.[17]

This last statement epitomizes the confusion facing teachers in many urban schools. If taken literally, the goal set is unrealistic when applied to students with Regional speech difficulties unless we first give them specialized speech training. The act of interrupting recitations in all subjects at all times to "insist" that these students convert their thoughts into what is to them almost a second language may be one of the reasons for our many dropouts.

Kohler, a former San Francisco Juvenile Court Judge, charges: "One of the weakest links in our educational chain is the failure of present methods to reach about 20 per cent of big-city children. They never learn what-they could. . . ."[18] We must seek better, more realistic methods of reaching these students and of building rapport through making them feel more comfortable in using the language of this area.

---

[16] *English Language Arts in the Comprehensive Secondary School*, The 1959-1960 Major Project of the NASSP Committee on Curriculum Planning and Development, a Preprint from *The Bulletin* (October 1960) of the NASSP (Washington, D. C.: National Association of Secondary-School Principals of the NEA, August 15, 1960), p. 4.

[17] *Ibid.*, p. 5.

Determination of Method

To determine the best type of specialized training for meeting this need, we must consider the nature of language as observed from its history and from its development within the child. First, the spoken language is primary, and the written derived from the spoken. Second, the speech arts--observing, listening, speaking, reading, and writing--are interrelated. Third, speech being an overlaid process, not biological, is a learned activity and largely learned through imitation.[19]

Prichett says:

> Speech is a unique and complex human function which is the result of learned behavior. The acquisition of speech is the most intellectual thing a person will ever do, and it should be an asset rather than a liability.[20]

---

[18] Mary Conway Kohler and Andre Fontaine, "We Waste a Million Kids a Year--Can Our Schools Bridge the Gap?" Part II, Saturday Evening Post, CCXXXV, No. 11 (March 17, 1962), 50.

[19] For elaboration of each point, see sources listed in the Bibliography: (1) Lamberts, p. 172; Lloyd and Warfel, p. 57; and Pei, p. 81; (2) Artley (NCTE): Interrelationships Among the Language Arts; and (3) Sapir, p. 9; Gray, p. 357; Anderson, p. 16, and Carroll, p. 745.

[20] E. Milo Prichett, "Introduction," Speech Correction, ed. Sister Mary Cyprian Spradling (Washington, D. C.: The Catholic University of America Press, 1958), p. 3.

An individual's speech becomes a liability when he has learned it through imitating poor models and when it is not acceptable in his new speech environment. There are pleasing characteristics of Regional speech which one would not wish to change; however, for those who have imitated poor models, migration to a northern urban area necessitates adopting Northern Urban speech either by altering speech patterns within the language or by adding the entire new pattern as a second language.

The key to pattern change lies in the process by which one develops speech in his early years. Anderson describes the process in detail taking us through the five stages of speech learning, the last three of which are pertinent here.

(1) The Pre-Lingual or Crying Stage
(2) Random Articulation, or Babbling
(3) Lallation--the Ear-Voice Reflex
(4) Echolalia--the State of Imitation
(5) Articulate Utterance[21]

Consistent with this speech-development process and, in fact, suggested by it, is the audio-language laboratory technique. If the child has learned to speak from imitating faulty models, it follows that to change his pattern of speech we should take him back to the period of lallation, sharpen his ear-voice reflex, and take him again through a stage of echolalia, giving him effective patterns to imitate. He needs further development of that part of his nervous system controlling discrimination of auditory impressions, which occurs during lallation, to set up what Allport called a circular response back and forth between the child's vocal mechanism and his ear. It is during the period of echolalia that the special sound pattern of the child's native language becomes more-or-less fixed, and it is with these sounds, later refined through association and conditioning, that the adult speech will be built. We need to re-educate him to the more exact production of these sounds, giving him practice in repeating them in the combinations which he needs for effective language use. He needs to "try on" good Northern Urban patterns until he has made them habitual. This is the technique that has been adopted by educators as the best means of teaching students to speak a foreign language and to learn English as a second language.

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[21] Virgil A. Anderson, Improving the Child's Speech (New York: Oxford University Press, 1953), pp. 18-23.

Language Laboratories

Since World War II, studies have been conducted which have resulted in a wide acceptance of tapes for teaching English as a second language. Starting with the ASTP (Army Specialized Training Program), the aural-oral technique has been developed primarily through the efforts of Bloomfield, Block, Trager, Agiolillo, Agard, Dunkel, Fries, Lado, Davis, and Croft (see Bibliography).

The rapid increase in the number of completely equipped electronic language laboratories and the resultant increase in the number of students enrolled in modern foreign language classes gives some indication of the value educators place on this technique for teaching. When the National Defense Education Act made federal funds available for improving the teaching of modern foreign languages in public elementary and secondary schools in 1958, the United States had only 64. By April 1, 1961, there were 2,500.[22]

We need a similar technique which enables the student to hear, and to gain practice in using, acceptable forms of his native language, English. We need to build into such a technique certain innovations and ideas gained through years of working with high school students in an attempt to employ the best means of reaching those who need help. The lessons should be carefully structured to include newer concepts of linguistic practice but to retain some identity with familiar terminology because of the textbook lag in this field. They should include Skinner's concepts of learning, with immediate reward and reinforcement, while using such theories as the basic Pavlovian concept of stimulus-response; the Gestalt idea of the individual's contribution to perception; Brooks' emphasis on language learning as the formation and performance of habits; and Bruner's attention to structure, readiness, intuition, and stimulation. For taping techniques, the lessons should be structured upon ideas gained from the writings of Marty, Stack, and Morton.

---

[22] "Federal Funds Improve Language Instruction," Michigan Educational Journal, XXXVIII, No. 16, (April 1, 1961), 548.

Specific Purpose of Study

The purpose of the study was to evaluate this audio-language laboratory technique as a means of helping students to substitute Northern Urban speech patterns for those of other regions, primarily Southern Rural, and to draw inferences from this experiment as to the potentialities for continued use of the approach. An objective was to produce, as a by-product of the study, a set of English lessons on magnetic tape designed to explain the structure of the English language, to improve articulation, and to meet the specific language needs described.

Significance of Study

Any positive result revealing a tested method for speech improvement would have a four-fold significance.

Aiding in Enculturation

In the first place, the study would be socially significant in the enculturation process. Since language and culture are interwoven, the migrants and various groups of sub-cultures, seeking upward mobility and now impeded by language difficulties, would be helped. Having originally come to the new area to seek social and economic advancement for themselves and their children, they need help in eliminating a basic cause of tensions and frustrations so that they may contribute to northern culture rather than become a burden to it. Differences such as skin coloring and mannerisms are more noticeable when accompanied by speech differences. Facility in language usage is a factor affecting an individual's human relations and his economic security. Aid in improving that facility should have a positive effect upon many social problems.

Meeting a Problem of National Interest

Secondly, national attention is being focused on the teaching of English. The public is not satisfied with the job the schools have been doing in teaching the basic communication skills. Complaints have been so numerous that organizations such as the National Council of Teachers of English and the Modern Language Association have issued publications defining the problems, showing English teachers' awareness of them, and seeking solutions. This study offers a constructive plan for meeting a problem of national interest.

Coping with Increased Enrollment

Thirdly, this study may provide a means of coping with increased enrollment. Taped lessons enable the students to get a sense of individual instruction while enabling the teacher to work with other students, or to accomplish other teaching duties. In a sense, fulfilling the function of a teaching-machine, the tapes can present the more routine phases of language teaching in a manner designed to be effective and least likely to offend, while the teacher may give more attention to other creative aspects of teaching to meet individual differences. Since there are no commercial tapes of this type, this series of fourteen lessons, an outcome of twenty years of teaching experience where the problem exists, should be a significant contribution to education. The tapes, a by-product of this study, will be marketed and made available for other teachers to use. Where extensive language laboratory facilities would be available, the tapes could, with self-motivated students, enable a teacher to handle a greater number at a time.

Improving Students' Vocational Potential

In the fourth place, the work is of greatest significance to the students who need specialized speech correction of this nature because they can not only be guided to language improvement but also can actually practice it. If the lessons help even a few more students each year to change speech patterns to more effective ones, and thereby improve their potential for achieving their aspirations, the study will have been of value. Since much of our teaching may have a delayed reaction, even those not immediately motivated to change will have realized some awareness of the need and of the procedure for change, and if a later job situation provides a motivation, they will know the direction for self-improvement.

Hypotheses

The Research Hypothesis was that a series of listening and repeating lessons containing motivation and explanation of English usage, recorded on tape and transmitted by earphones to students in tenth-grade English classes at Central High School, Detroit, Michigan, would help them to substitute acceptable Northern Urban speech patterns in school, business, and most social situations for the unacceptable usages found in patterns of other regions, primarily Southern Rural.

The Operational Hypotheses were:

(1) That, of two groups (the Experimental Group, which received the taped lessons by earphone only, and the Control Group, which read the scripts without hearing the lessons), the Experimental (auditory) Group would score significantly higher in oral examinations based on Extempore Autobiographical Speeches and Impromptu Business Interviews than would the Control (reading) Group.

(2) That the lessons, with resultant newly emerging speech patterns, would have a significant effect on

academic achievement in written work as shown in a usage recognition test and in actual writing, as well as in attitude toward self-improvement measured by an inventory instrument constructed by the Experimenter.

The general form of The Statistical Hypotheses which emanated from the Operational Hypotheses was:

The Alternative Statistical Hypothesis for Operational (1):

$$H_1 \quad : \quad \mu_E \quad > \quad \mu_C$$

Hypothesis (1): The mean of the Experimental Group is greater than the mean of the Control Group.

The accompanying Null Hypothesis which was submitted to test was:

$$H_0 \quad : \quad \mu_E \quad \leq \quad \mu_C$$

Null Hypothesis: The mean of the Experimental Group is equal to, or less than, the mean of the Control Group.

This approach was employed extensively throughout the Analysis of Covariance, which analytical technique was chosen because it increases the precision of an experiment by eliminating causes of variation, in some cases not controlled by the experimental design.[23]

A five per cent level of probability was employed as the level of significance required for the rejection of the Null Hypothesis.

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[23] Palmer O. Johnson, Statistical Methods in Research (New York: Prentice-Hall, Inc., 1949), p. 297.

Assumptions

The assumptions underlying the study are the following:

(1) The data-gathering instruments used were of sufficient reliability and validity to satisfy the purpose of this study.

(2) The differences in listening and reading ability and in attention span of the subjects were not sufficiently significant to affect this study.

(3) A measurable effect would show in the short period of one semester.

Definitions

Throughout this study, certain terms will be used. For greater clarity, it is to be understood that the following meanings are intended:

Language: "A system of communication by sound, i.e., through the organs of speech and hearing, among human beings of a certain group or community, using vocal symbols possessing arbitrary conventional meanings."[24]

A Speech Pattern: The complete system of all the phonemes of a language, including sound, arrangement, and form.

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[24] Mario Pei and Frank Gaynor, Dictionary of Linguistics (New York: Wisdom Library, A Division of Philosophical Library, 1954), p. 119.

Patterns of Speech: Imitated examples of meaningful vocal expression, or clusters of phonemes, within a language; also the plural of speech pattern.

Regional Speech: Speech pattern common to a particular geographical area.

Deviations: Generally, deflections from acceptable norms as in structure, enunciation, and articulation which are conspicuous and which call adverse attention to the user. Specifically, for objective rating of the oral tests, all deflections causing the raters to feel negative reactions when measured against the norm they uphold as being the good standard General American speech recognized by speech correctionists and English teachers.

Negative Reactions: The adverse judgmental response of a hearer as he listens to another person's speech.

"Ten A," or "10A" Student: Under the Detroit semi-annual admission and promotion plan, one who has 55 hours of credit and who is enrolled in the second-semester tenth-grade English class.

General Level: "General" classification as distinguished from "College Preparatory" or "Vocational," and as distinguished from "accelerated" or "remedial."

Instructional Tapes: Lessons designed to teach the structure, sounds, and intonation of the English language and to encourage good English usage through imitation; they are recorded from script by male and female voices on magnetic tape to be heard when played on a tape recorder.

Script: The written message identical to the taped one. (Scripts are duplicated and stapled together. The format used contains the words "explanation" and "repetition" centered, followed by the appropriate subject matter.)

Earphones: Standard headpieces with amplifiers at ears. (Four Voice-Flex amplifiers on standards were available if students preferred them. Because sound from them could be faintly heard in the room, they enabled the teacher to be aware of the progress of the taped lesson.)

Extempore Speech: A speech, or talk, that is prepared but not memorized.

Impromptu Speech: Speech that is "on the spur of the moment," with little or no previous preparation.

Usage: Customary or habitual use of a word or phrase in a particular sense or signification.

Attitude: Feeling or state of mind; herein, as applied to speech improvement and to the work in the special class.

Mental Abilities: Estimate of scholastic aptitude and achievement. Judgment was based on SCAT-STEP (School and College Ability Tests and Sequential Tests of Educational Progress), and on scores from eighth-grade tests, when available and not conflicting; otherwise, on performance in class.

High Mental Ability: B to C+ average scores or estimates based on a five-point scale with A-Excellent, B-Good, C-Average, D-Doubtful, and E-Failing. (There were no A students in these particular general level classes.)

Average Mental Ability: C+ to C- average scores or estimates.

Low Mental Ability: D to E average scores or estimates.

Teacher-Time: A variable, or factor, used in the analysis. Since there were two teachers, each teaching one experimental and one control class with each having one class in the morning and one in the afternoon, the two elements were combined into one.

Education of Parents: A rating of 1 - 3 based on student responses to checking the educational level, or highest school level, completed by each parent. The ratings and their representations are as follows:

(1) One or both parents having had no more than an eighth-grade education.

(2) Both parents having had high school education.

(3) One or both parents having had at least one year of college education.

Substitutions: Substitutions of one sound for another, or of one word for another (i.e., the sounds i for e, f for th; or the words filling for feeling, during for doing, and dust for just.)

Additions: Additions of sounds such as an extra j to make January sound like Janjuary. (In scoring oral tests, prolonged vowels were not counted as additions unless extremely exaggerated, or unless another sound were added.)

Omissions: The leaving out of sounds or letters such as the final or central consonant sound or letter, as in bes(t), cent(s), fi(f)ty; also the omitting of words, except for omitted auxiliary verbs, which were classified under Forms of Verbs. (The omission of the d or t sound or letter for the past tense was counted under Forms of Verbs.)

Deviations in Agreement: Lack of acceptable inflectional relationship between the subject and verb, and between a pronoun and its antecedent, to indicate number. (No instances of lack of agreement involving pronouns were recorded for oral usage.)

Writing Symbols: The use of punctuation, capitalization, indentation for paragraphing, and other mechanical aspects of writing, including spelling.

Pertinent opinions and research findings relating to the use of tapes, and to other phases of work connected with changing language patterns, are summarized in the following chapter, and provide a background which led to the present investigation.

CHAPTER II

RELATED STUDIES

There are no completed studies of this type known which use taped lessons to teach English to native high school speakers with the aim of changing Regional speech patterns. There are no known tapes that explain the structure of the English language and provide repeating practice through combining linguistic concepts, programming techniques, and concepts of human relations for motivating speech improvement. This conclusion was reached after a thorough search of the literature, and through inquiries either in person or through letters to the major language centers in the country and to outstanding linguists and educators acquainted with current work.

Areas in which there have been studies that show some relationship to this one are those concerned with: (1) Teaching English by Tape, (2) Teaching Foreign Languages by Tape, (3) Teaching Other Subjects by Tape, (4) Changing Language Patterns, (5) Listening Training, and (6) Speech Training.

(1) Teaching English by Tape

Lin

The most closely related study is being conducted at Claflin University in Orangeburg, South Carolina, under the direction of Dr. San-su C. Lin. This three-year project, entitled Pattern Practice on the Teaching of Standard English to Students with a Non-Standard Dialect, was begun in September, 1961, and will not be evaluated until 1964. It is aimed at meeting a similar language problem on the college level using recorded pattern practice drills. Mrs. Lin writes that, "For Americans who learn Standard English almost like a foreign language (with the non-standard dialect as their first language acquired in early childhood), possible applications of pattern practice techniques have scarcely begun to be explored."[1]

This project differs from the present study in that it is geared for college level Negro students in a southern situation and will provide pattern-practice tapes to be used in a laboratory situation rather than in an English classroom. Students will go to the language laboratory one class period per day, six days a week, using four lessons each week, with two periods for review.

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[1] Mimeographed project plan enclosed with personal letter, April 27, 1962.

Weiss

Weiss, of Detroit, designed a linguistically-based study to teach English through a contrastive comparative experience with the study of French, using some English sentence-drill tapes which he devised as a small part of the experiment. Designed to test differences in English achievement and in French achievement in separately-taught classes and in block-of-time classes, the study also tested differences between classes taught by teachers with French training and those without French background. The students involved were from three 8B classes, a total of 209 pupils in each of two buildings, the pupils being similarly "not favored by socio-economic factors leading to enhanced academic achievement." Using a five-factor covariance analysis to compute interactions among school, group, individual, mental rating, and sex, he found no significant achievement increase from reading or from French tests, but did find results on the Iowa language composite and the STEP essay test significant at the five per cent level, and the group effect on the STEP test significant at the one per cent level. He found that in English skills, slow students surpassed upper-mental-rating students, and boys were superior to girls. Among other conclusions, Weiss noted indications that "skillful use of audio-visual aids may be useful in assisting pupils and teachers to learn together."[2]

Since these tapes were designed for a different purpose, and were a part of a foreign language project, they are unlike those used in this experiment.

Moyer

Moyer did not use previously prepared lessons on tape, but did use the tape recorder for all types of ear-training for improving the language usage of fourth, sixth, and eighth grade children in his experimental groups in the laboratory school at Syracuse University. His use of the recorder in one group would correspond to the use made in this study of the recorder in both control and experimental sections for various speech activities, followed by play-back and criticism. Both sections at Central High School were permitted to gain this type of ear-training, which would tend to minimize differences between the two groups; whereas, Moyer's control group consisted of students in the same grades in the public schools who were taught by experienced teachers who followed their regular pattern of teaching, using a textbook in English and doing the written corrective usage drills from the text. He found through an analysis of covariance of standardized test scores that there was no definite relationship between the "ability to do well on a standardized test of correct usage and oral correctness or between the ability to improve on a standardized test and the ability to improve in oral expression." Sex made no significant difference, but the experimental groups made greater progress on a test of language usage.

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[2] Bernard J. Weiss, "An Investigation of a Synchronous Multi-lingual Curriculum in a Linguistic Framework," (unpublished doctoral dissertation, Wayne State University, 1962), pp. 129-37.

> There were four concomitant improvements among the ear training groups: the number of run-on sentences was reduced, many mispronunciations were corrected, ease and fluency were improved, and better use of volume and tempo seemed to result. . . . Ear training through the use of some kind of recording device apparently can alter greatly the speech level of children and help establish the habits which need to become automatic for effectiveness in social communications.[3]

(2) Teaching Foreign Languages by Tape

Dostal

Dostal's study, conducted in Detroit in 1957, involved 282 high school pupils in first year French who used audio-visual instructional materials and 283 pupils in four other high schools who worked with standard materials and teaching techniques as the control group. She concluded that the experimental group, conducted with audio-visual instructional materials and teaching techniques, which included taped lessons, "was clearly superior to the control group in the ability to speak. This was very significant at the one per cent level."[4]

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[3] Haverly O. Moyer, "The Effect of Ear-Training on Certain Aspects of Children's English Usage," (unpublished doctoral dissertation, Syracuse University, 1950). Abridgement included in C. W. Hunnicutt and William J. Iverson, (ed.) Research in the Three R's (New York: Harper & Brothers, 1958), pp. 342-46.

Creore and Hanzeli

Somewhat similar to Dostal's was the study by Creore and Hanzeli, which differs in that both the control and the experimental groups were given laboratory practice using French lessons on magnetic tape. The experimental classes, based on Borglum's text, Images de France, used rigorous pattern drill and the integrated visuals while the control sections used Basic Conversational French by Harris and Leveque, which also uses the spoken language in the classroom but with less drill and without visuals. The results showed that, while the control groups did better in reading and writing, the experimental groups, which had more pattern practice, made greater gains in speaking proficiency. "The most outstanding positive characteristic of the experimental method seems to be its efficiency in the teaching of the speaking skill. In particular, the experimental students' pronunciation was far superior to that of the control students." Another positive result was that a greater number of students from the experimental group went on to take further courses in French than did those from the control group.[5]

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[4] Naida M. Dostal, "Audio-Visual Second Language Learning," (unpublished doctoral dissertation, Wayne State University, 1960), p. 130.

Politzer

Politzer compared the work of students learning French at the University of Michigan with laboratory practice and students at Harvard learning French without laboratory practice. The study involved first-semester French students, 396 at Michigan, using taped lessons for extra practice sessions, and 250 at Harvard, taught by traditional methods. He found that the laboratory did contribute to student achievement and enabled some students of lesser ability to achieve an A in the course while no one from the lesser ability group made an A at Harvard, and at Michigan no one who spent frequent hours in laboratory practice failed the course, while at Harvard quite a few failed in spite of effort.[6]

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[5] A. E. Creore and Victor E. Hanzeli, A Comparative Evaluation of Two Modern Methods for Teaching a Spoken Language: Final Report Submitted to the United States Office of Education, Grant No. 745016109. (Seattle: University of Washington, 1960.)

[6] Robert L. Politzer, "Assiduity and Achievement," Modern Language Journal, XLIV (January, 1960), 14.

Allen

A test of foreign language teaching by tape at Ohio State University has a point of similarity in that the experimental group heard lessons on tape just one day a week, but for a fifty-five minute period. (The tapes for the present experiment are approximately thirty minutes long.) Allen conducted this experiment in the school year 1957-1958 in both Elementary and Intermediate French and Spanish. The groups were first paired on the basis of achievement on standardized tests, and then a random-choice technique was used. The control groups had no laboratory work. Average scores and standard deviations were compared, and the conclusions reached were that students who spent one day a week listening to tape with verbal responses achieved significantly higher scores in reading, vocabulary, and grammar, but no difference was shown in the degree of achievement in oral performance in the foreign language. Allen states, "This tends to corroborate the theory of some leaders in the field of foreign language teaching that the more time pupils spend in listening and speaking the language, the better able they are to read it." He suggests that the laboratory group may have surpassed the non-laboratory group in the spoken language if it had spent one or two more periods a week in the laboratory.[7]

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[7] Edward D. Allen, "The Effects of the Language Laboratory on the Development of Skill in a Foreign Language," Modern Language Journal, XLIV (December, 1960), 355-58.

Gibson

A part of the Westside High School Teaching-by-Tape Project in Omaha, Nebraska, included teaching conversational Spanish by tape. Statistical measurements were not applied during the third and final year (1958-1959). "The previous two years had indicated that score-wise the tape was doing a very satisfactory job." Emphasis was put this third year on making the experimental course even more attractive to the pupils and teachers who presumably knew no Spanish at the beginning of the year. The community also wanted a language program that would not only include junior high school students, but would also start at the third grade. Conversational Spanish by tape in the seventh grade was made a permanent part of the curriculum. One interesting finding is that:

> There is no significant difference between experimental classes that have been entirely tape-taught with their regular classroom teacher not knowing Spanish, and control classes taught the same material by their own classroom teacher who has had Spanish training. This applies to written and oral measures of competence. Some seventh grade classroom teachers using the taped lessons can obtain the same scores in testing as qualified Spanish teachers.[8]

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[8] R. E. Gibson, "Final Report on Westside High School Teaching-by-Tape Project," *The Bulletin of the National Association of Secondary-School Principals*, XLIV (January, 1960), 61.

Morton

Morton implemented teaching machine techniques for teaching Spanish by tape to twenty Harvard freshmen and sophomores in 1953 and 1954. He used seven sets (180 exercises), or fourteen hours of playing time, to present "Phonematization," with students using the tapes in a laboratory where each had his own copy of the tape and could rewind to repeat at will. This was followed by four sets of lessons (230 exercises) in "Sound Reproduction," ten sets (430 drills) in "Structural Clues," and ten sets (40 drills) in "Model Patterns," and, finally, seven sets (14 drills and 7 tests) in "Vocabulary Building," which led to a vocabulary exposure of 2500 words. The students heard each tape as many times as necessary to understand every detail and could take the tests when each felt he was ready.

Although this was not a controlled experiment, Morton states it "was unquestionably successful in the most concrete way." These students were easily superior to those in regular third and fourth year language work. They had natural fluency although they had not learned traditional terminology and had little experience in reading or writing Spanish. The learning was entirely the result of the student's assiduity since he worked alone at his own speed, and completion of the course guaranteed success. The physical presence of the instructor was never necessary for the teaching nor the testing process although he did occasionally evaluate pronunciation and suggest remedial work.

Morton's concept of the taped lessons' serving as a teaching machine for Spanish has been employed in the series of English lessons used in this experiment. Although minimal in comparison to his great number of tapes and the unlimited hours which students could use them on an individual basis, these also have the potential for such use and could serve as the complete teacher. The Golden Series of English Language Lessons, as they have been named, also presents "phonematization," sound reproduction, structural clues, model patterns, and vocabulary.[9]

(3) Teaching Other Subjects by Tape

Gibson (Spelling)

The Omaha, Nebraska, three-year project of teaching spelling by tape involved fifteen seventh-grade classes at Westside Community School with experimental classes taught by tape while control classes were taught the same lists by their teacher. The analysis of covariance was applied with the means adjusted for beginning score and I.Q. The analysis revealed that the two means differed significantly at the five per cent level of confidence in favor of the so-called tape-taught group in the comparison of high-level ability groups. When compared with a cross section of other ordinary spelling classes which included one heterogeneously grouped class, one high- and one medium-ability group, after means were adjusted, the difference was found to be significant at the one per cent level of confidence, in favor of the tape-taught group. The results from the low-ability groups were not significant. "It was therefore concluded that there is neither advantage nor disadvantage in using the tapes with the slightly below normal pupils other than the amount of time saved the teacher for other activities while the tape lesson is in progress." When all experimental groups were combined and all control groups combined to evaluate the total effectiveness of the project (1958-1959), the results were highly significant at the one per cent level of confidence in favor of the tape-plus-supplemental-list groups.[10]

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[9] F. Rand Morton, The Language Laboratory as a Teaching Machine (Ann Arbor: University of Michigan, 1960), pp. 11-31.

Rea

Rea tested the effectiveness of emphasis upon the training of oral-aural abilities in methodology in spelling in relation to emphasis upon either visual or

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[10] R. E. Gibson, op. cit., p. 56. Gibson's term "level of confidence" is used in the reporting above.

"haptical" (kinesthetic) training. Three matched groups of 39 pupils each were taught identical lists of spelling words, each by a different method.

> The differences between the means of the oral-aural and the haptical groups and the oral-aural and the visual groups when tested by the technique were significant at the .005 level. This means that the probability that so large a difference would arise through chance alone would be five in 1000 times.

One conclusion reached was, "The results suggest that conscious, consistent, and sequential training in oral-aural discrimination may play a very important role in promoting spelling power."[11]

Cooper

A part of a four-phased project, an attempt at teaching shorthand by tape at the J. Sterling Morton High School in Cicero, Illinois, lacked positive results at the end of the first year of a two-year project. Two beginning classes in shorthand were distributed in paired relationship on the basis of scores, scholastic averages, sex, and age, with the same instructor teaching both classes. The control group was taught by the usual method of oral instruction while the experimental group was taught by the use of tapes only. Some of the tapes were commercial, and some were made by the teacher. Lack of experience in making tapes created a real problem, and there were no scripts accompanying them in the first semester. The problem of what data to collect and other concerns are among those listed under the heading of "Some False Starts." A system of progress points for a scientific measurement was finally devised. In the data processing, based on three six-week periods and an over-all measurement, the findings were in favor of the control group.[12] The summary at the end of the first year indicates that more time is needed for experimentation, and that these findings may not be valid because of the many false starts.[13]

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[11] Thelma M. Rea, "Discipline in Oral-Aural Discrimination as a Factor in Developing Power in Spelling," (unpublished doctoral dissertation, Stanford University, 1958), Dissertation Abstracts, XIX (1958), 743.

(4) Changing Language Patterns

Green

Green studied reciprocal (Yiddish-English) influences on phonology, grammar, and vocabulary. Using the interview questionnaire technique with twenty-nine informants, he analyzed speech differences heard. He states:

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[12] Walter L. Cooper, "Use of Tapes, Language Laboratory, and Teaching Teams at the J. Sterling Morton High School and Junior College," The Bulletin of the National Association of Secondary-School Principals, XLIV (January, 1960), 233-41.

[13] From the author's experience, educators should not expect that untrained teachers can suddenly produce taped lessons of a desirable quality suitable for teaching. Besides all of the skills of teaching, there are many other skills required in the production of an instructional tape, and the work is very time consuming. Because they involve more than just pattern practice, the fourteen tapes produced for this study were six months in the making after four years of part-time experimentation with the idea.

> The upshot is that instances of phonological, grammatical, and lexical interference and transference in the English of bilinguals were reinforced by repetition. To avoid interference, bilinguals would have to be trained formally, but again, opportunities for schooling were relatively few. A bilingual's child may speak English perfectly, but he is certainly no hand at teaching his parent how to do away with Yiddish influences.[14]

Thomas and Surachmad

To the extent that changing to "standard" English is like learning a second language, a 1959 Ford Foundation Study of Indonesian language has relevance. This study investigated the question: At what rate does an imposed national language (in this case, Indonesian) become adopted in everyday life by the people of a district that has its own language? A survey of 1443 school pupils (grades three through twelve) in the city of Bandung, in the mountains of West Java where the native language is Sundanese, showed that the next most common home language was a Sundanese-Indonesian combination (ranging from about 25 to 30 per cent of elementary school pupils to about 10 to 15 per cent of high school students). It was found that there were 32 different language combinations spoken in the homes with the greatest variety in the junior and senior high school groups. Outside the home Sundanese was most popular, being used by 94 per cent at third grade, 90 per cent at fourth, and Indonesian used by very few. With each advancing grade level, Indonesian (often in combination with Sundanese) became more popular so that in high school the situation was reversed. In high school some combination of Indonesian was used by about 95 per cent of the students surveyed, and a total of twelve different language combinations was reported used by students outside the home. The investigators concluded that the imposed national language, Indonesian, has been adopted much more readily for communicating outside the home than within the home, which should be anticipated in regard to the present study.[15]

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[14] Eugene Green, "Yiddish and English in Detroit: A Survey and Analysis of Reciprocal Influences in Bilinguals' Pronunciation, Grammar, and Vocabulary," (unpublished doctoral dissertation, University of Michigan, 1961), p. 244.

Yamagiwa

Yamagiwa reports the efforts to standardize the language of Japan where geographical barriers have created "a mosaic of dialects." The media of mass communication have recently helped

> to create in each community a citizenry that speaks two languages, the dialect of the area in which it lives and a *kyōtsūgo* or common language which is understood everywhere and which it shares with the inhabitants of other communities. The

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[15] R. Murray Thomas and Winarno Surachmad, "The Superimposition of a National Language," *Modern Language Journal*, XLIV (December, 1960), 315-21.

> common language is not exactly the same as the _hyōjūngo_ or standard language taken as the model in schools, but it possesses in essence the features of the language of the middle and higher classes in Tokyo on which the standard language is based. . . .
>
> Within each dialect area the compulsion to use either the dialect forms or the forms of the common language depends on the speaker's total social background and the demands of each particular situation.

He describes an experiment by the National Language Research Institute, in conjunction with the Institute of Statistical Mathematics and the Folklore Institute (not available in English), which was conducted in Shirakawa, Japan, in 1949 to gain an estimate of the factors encouraging or hampering the use of the common language. A score of 17 or better on the phonological items, in answers to questions designed to elicit responses whose grammatical forms were either dialect or common language forms, was taken to show good control of the common language. In addition, as a check on the other findings, the speech of a farmer, the wife of a merchant, and the owner of a beauty parlor was recorded over a twenty-four hour period, to determine which language forms, belonging to the local dialect or to the common language, would be used.

Results from the whole investigation show that educational history, the birthplace of the parents, and the place of residence during the formative years for language learning are of the greatest importance. The respondent's age, occupation, and attitude toward society and language are of some importance. The following factors are of least importance: sex, occupation of parents, social class, travel, the reading of newspapers, and listening to the radio.

> Especially consistent in their use of the phonology of the common language was the group of girls of ages 15 to 18, whose mothers were born in the Tokyo-Yokohama area, and who had either attended or had graduated from a senior high school or specialized school.
>
> It is in the home that the local dialect is retained most tenaciously, and it is with strangers and travelers from outside the Shirakawa area with whom the common language is most frequently used. Among the special dialect characteristics found in the Shirakawa area, devocalization and the use of sh for h are most easily corrected, whereas the tendency to confuse i and e remains even when the common language is otherwise adopted. Those who grow up in the rural areas surrounding Shirakawa retain their dialect pronunciations more firmly than those who are reared in the city.[16]

This experiment demonstrates that it is possible for native speakers to maintain both a dialect and a more standard speech pattern and to use the more appropriate one in any given situation. It should be noted, however, that traditionally in Japan the language pattern that an individual uses, including both vocabulary and grammar, varies with his position relative to the prestige level of the person to whom he is speaking. The use of a variety of speech patterns in appropriate social situations is thus inculcated from childhood.

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[16] Joseph K. Yamagiwa, "Japanese Language and Japanese Culture," Twelve Doors to Japan (Mimeographed edition of book to be published by The Center for Japanese Studies, University of Michigan, 1962), pp. 212-18.

Williamson

Williamson's dissertation is a linguistic study of the speech of Negroes of Memphis, Tennessee. Using the short work sheets of *The Linguistic Atlas of the United States and Canada*, she analyzed the speech of twenty-four informants, ranging in age from twenty-seven to eighty-four years, and including those with little or no education as well as those with college education. She makes some comparisons with Atwood's *A Survey of Verb Forms in the Eastern United States* and states that, "Leveling of the past tense and past participle forms is common. Most of the Type I informants (of little or no formal education) have / d ṙ o v /; from one-third to one-half use this form. Among other forms which occur are / d r ɪ v, d r ʌ v /."[17] Such linguistic findings would suggest that northern urban employers, and those making social judgments, should be much less critical of speech forms which are acceptable elsewhere.

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[17] Juanita Virginia Williamson, "A Phonological and Morphological Study of the Speech of the Negro of Memphis, Tennessee," (unpublished doctoral dissertation, University of Michigan, 1961), p. 97.

Miller

Miller made a study in 1953 which included, among other facets of the study, a questionnaire sent to ninety-seven Negro colleges and universities. He stated that he did not pre-suppose foreign language problems that were entirely peculiar to Negro students or to Negro institutions, but that wherever problems exist, if their causes can be determined and studied, methods and materials can be devised that will help greatly to solve them. The investigator requested the respondents to apply a three-point scale to six possible background conditions for learning and a five-point scale in rating eight statements on attitudes.

> The most common responses would seem to suggest the following: A very high percentage of Negro students enter foreign language classes with poor pre-college preparation, and are lacking in abilities to communicate well in English. They seem to have, generally, very limited English vocabularies, and hence, cognates help them little in the comprehension of polysyllabic foreign words. Few of them show evidence of training in phonics for spelling, and hence, are prone to metathesize English as well as foreign words.

The attitudes of the students are shown to have an important relationship to their work.

Among twenty-four recommendations growing out of this study, item number eight is: "Audio-visual aids should be used more widely than they are at present."[18]

Everhart

Everhart's study indicates that all types of articulatory deviations with which the author is concerned should respond to training. Everhart compared articulatory defects among Negro and white elementary school children. He concluded that articulatory disorders occur more frequently among elementary males than among elementary females. He also states that, "In general, negro elementary children having articulatory defects show comparable patterns of growth and development when examined with white elementary children similarly afflicted."[19]

(5) Listening Training

Rankin

Rankin's dissertation in 1926 was based on a test which he developed for measuring listening. His study shows the importance of the ability to understand the spoken language. He states, "According to the data collected, listening occupies almost three times as much time as reading does of the total spent in communication with verbal symbols, and four times as much as writing.

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[18] Kenneth Carson Miller, "The Teaching and Learning of Modern Foreign Languages in Colleges and Universities for Negroes," (unpublished doctoral dissertation, Ohio State University, 1953) Dissertation Abstracts, XIX (1959), 1674.

[19] Rodney Warren Everhart, "The Growth and Development of Negro and White Elementary Children with Articulatory Defects," (unpublished doctoral dissertation, University of Michigan, 1953), p. 94.

The proportion of time spent in listening was found to be, on the average, 42.1 per cent."[20]

Witty and Sizemore

According to Witty and Sizemore, the proportion of time spent in listening had risen in 1929 to 47 per cent, and in 1950 Miriam Wilt found that children devoted an even larger share of their time to listening - 57.5 per cent of classroom time.[21]

Witty and Sizemore trace studies of the relative values of visual and oral presentation from an early study involving color in 1893 through such experiments as that of Worcester in 1926 who concluded that, "Neither method of presentation, auditory or visual, presents any marked superiority," on through more recent factorial studies. In Part II the studies listed concern lecture _versus_ reading, oral _versus_ written examinations, and oral and written presentations of advertising materials. In general, they show little difference, some inconsistencies, and inadequacies.

In Part III the studies included sought to determine relative values of certain factors such as age, rate, length of presentation and other variables, in regard to listening *versus* reading. These studies used radio speeches, records, or direct oral communication for testing materials. Throughout the history of these listening studies there is a noticeable lack of use of magnetic tape. The results show general disagreement, causing Witty and Sizemore to conclude that efficiency in learning depends less upon the mode of presentation than upon a complex of other factors.[22]

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[20] Paul T. Rankin, "The Measurement of the Ability to Understand Spoken Language," (unpublished doctoral dissertation, University of Michigan, 1926), p. 216.

[21] Paul A. Witty, and Robert A. Sizemore, "Studies in Listening," _Elementary English_, XXXVI (February, 1959), 298.

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(6) Speech Training

Clapp

The importance of speech training was emphasized by the National Council of Teachers of English as early as 1926 in a study of the language habits of 2,615 Americans representing 253 occupations in 300 different towns in 35 states. The six most commonly used language activities in the practical affairs of life at that time were conversation, interviews, reading, writing, public speaking, and listening.[23]

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[22] *Ibid.* XXXV (December, 1958), 538-52; XXXVI (January, *1959*), 130-40; and XXXVI (February, 1959), 297-301.

[23] John M. Clapp, Review of *The Place of English in American Life*, ed. John M. Clapp, *The English Journal*, XV (February, 1926), 110.

Haugh

In a study made in 48 schools in Kansas for the school year 1954-1955, Haugh found that of a total of 7,698 students enrolled in 48 high schools, 667 (roughly 8½ per cent) were enrolled in courses of speech, and less than 29 per cent were participating in some type of extracurricular speech activity. He states:

> The important fact that this survey establishes is that courses in speech enroll only a small minority of our high school students. In most high schools the speech courses are elective and therefore attract those students who are usually the most proficient in the speech arts. It is probably safe to say that if instruction in speech is not included in the English class, the majority of the students in our high schools will not get any training in speech at all.[24]

This conclusion lends credence to Ribicoff's phrase, "unrealistic school programs," where speech training to eliminate negative judgments is not included in an English class. English teachers must be alert to the problem which this experiment is designed to meet.

Golden

The need for effective speech instruction to help overcome the special language difficulties that are acute in many Detroit high schools was shown in the previously cited study published by the author in 1960. This study was based on a questionnaire given to 902 students in five Detroit high schools. The machine-tabulated results showed relationships in percentages between certain expressions and various background factors. The study revealed that the 102 non-standard expressions listed were both heard and used at least four times more frequently by eleventh and twelfth grade students in the three schools representative of the Southern Regional pattern than by those in schools of comparable socio-economic level but representative of general Detroit area speech.[25]

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[24] Oscar M. Haugh, "The English Teacher as Teacher of Speech," The English Journal, XLIV (April, 1955), 206.

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[25] Golden, op. cit., p. 58.

CHAPTER III

DESIGN OF STUDY

The fundamental focus of the investigation was directed to a study of the effectiveness of instructional tapes for changing Regional speech patterns. The hypothesis as stated in Chapter I, pages 16 and 17, was that a series of listening and repeating lessons containing motivation and explanation of English usage, recorded on tape and transmitted by earphones to students in tenth-grade English classes at Central High School, Detroit, would help them to substitute acceptable Northern Urban speech patterns in school, business, and most social situations for the unacceptable usages found in patterns of other regions, primarily southern rural. This chapter will present a description of the design used, the subjects, and the methodology employed.

Source of Data

The school at which the test was conducted, Central High School, Detroit, the first public high school in Michigan, has a long tradition of scholarship. A survey in 1929 revealed that there were more graduates with doctor's degrees from Central High School than from any other high school in the State. Students have every reason to take pride in their school. Now situated on a large tract of land between Linwood and LaSalle Boulevard, Central and the adjoining English-style buildings, Durfee Junior High School and Roosevelt Elementary School, give the appearance of a college campus.

Socio-Economic Level

Having undergone a rapid change in population from predominantly Jewish to predominantly Negro students within the past ten years, the school represents a wide range of socio-economic levels. It draws from the beautifully constructed homes on Chicago, Boston, and LaSalle Boulevards and also from the fast deteriorating sections of Twelfth Street. There are successful doctors, lawyers, and other professional people among the parents as well as unskilled workers and welfare recipients. Within the low income groups, there is an indifference to learning, and speech patterns are generally very poor. According to figures adjusted from the Federal Census of 1960 by the Urban League, the average annual family income is about $5,200.[1]

Curriculum

The administration and teachers are alert to curriculum developments. As a comprehensive high school,

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[1] The average annual income of non-white city-wide population is $4,387, according to the U. S. Census of Population, 1960, P. C. (1) 24C, Michigan, Table 78, "Family Income, 1959," pp. 24-271.

Central offers a full range of subjects in the broad fields, operates a full athletic program and has vocational facilities for both boys and girls, including Cooperative Employment. The English Department sponsors the school newspaper and yearbook, encourages essay contests, offers remedial reading, and is one of the major schools participating in Detroit's Experimental English Program, commonly known as the Rutger's Reading Plan. For this plan, and prior to it for use with accelerated classes, lay readers have been employed so that students may have more frequent corrected writing experience.

School Statistics

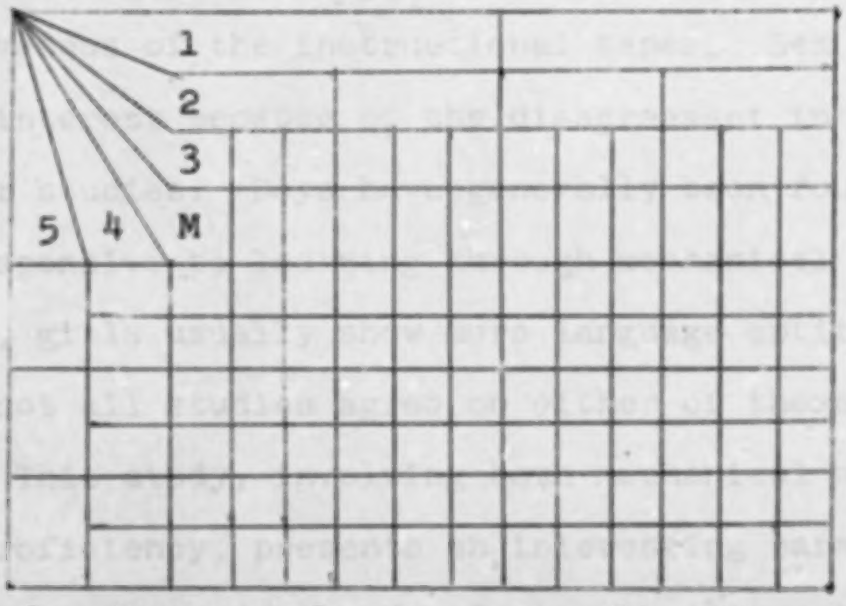
In the semester beginning in September 1961 and ending in January 1962, when this experiment took place, the actual enrollment was 2,369 with a total of 760 students in the tenth grade. About 20 per cent of the graduates will go on for further study. During this semester there were 125 dropouts including suspensions, which represent 5.27 per cent in contrast to the previous year's 12.88 per cent and the city-wide high school figure of 9.8 per cent. In the previous semester there had been a campaign to impress upon students that Central was a school for "achievers" and that those who did not try to achieve could not stay. Several "triple E" students were suspended.

During the semester of the investigation, 300 students made the honor roll, and 20 were members of the National Honor Society. Approximately 750 students participated in the 16 extra-curricular clubs, 18 were winners in school-sponsored contests, and there were 12 school programs open to the public.[2]

Sample of Study

The study sample was selected from the universe of randomly-chosen class membership adjusted to fit the seventy-two cell grid shown below:

FIGURE I
FIVE-WAY FACTORIAL GRID



1 - Groups, 2 - Sex, 3 - Education of Parents, M - Measurements, 4 - Teacher-Time, 5 - Mental Ability

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[2] City-wide figures were obtained from Dr. Richard Dresher, Head of Guidance, Counseling, Detroit Public Schools; others were from Dr. Charles S. Lewis, Principal, Central High School.

This factorial design was chosen because it would permit a study of the interaction of the five variables shown: Group, Sex, Education of Parents, Teacher-Time, and Mental Abilities. The analysis of covariance technique provides a means of testing to determine the significance of each of such factors in its effect on the scores. Since selecting students on the basis of these five criteria limited the number from each class, the final sample consisted of eighteen students from each of the four classes, thirty-six each of control and experimental groups.

Of prime consideration was the factor of Group, because differences in the achievement of the experimental and the control groups must be determined to test the effectiveness of the instructional tapes. Sex was a factor of interest because of the disagreement in the results of other studies. Boys have generally been found to be more responsive to learning through mechanical aids; whereas, girls usually show more language aptitude, although not all studies agree on either of these conclusions. This study, involving both mechanical aids and language proficiency, presents an interesting paradox which makes the outcome of the Sex factor an interesting finding. The level of Education of Parents is, however, a most pertinent factor because it is apt to determine the speech climate of the home during the formative years when the child is acquiring the patterns upon which he will build his adult speech. Teacher-Time was a natural factorial classification because of the division of classes with one experimental class and one control class in the morning and one each in the afternoon. The extent to which time of day might influence results was the consideration to be examined here since the teachers were matched as closely as possible in temperament and personality. Mental ability should have a definite effect on learning, but the range of mental differences was limited in the "General" classification from which the sample was taken. It is of interest to see to what extent this factor influences results even when there are no A students.

Data Collection

The data for this communications research project were from second-semester tenth-grade, general level students in classes then referred to as Composition (2), or English (4). Because of changing over to fused courses of composition and literature from the alternating semester plan, it was the last semester that any of these classes would be designated "Composition (2)," and this nomenclature was supplanted by the unofficial title, English Language Laboratory. Of the three ability levels, this class represented the middle section. Usually, those who have a good pattern of speech are screened off into the accelerated groups, while the retarded learners are placed in the remedial sections. In the general classes, then, are the average students most likely to be in need of speech up-grading and who would be likely to profit most from the new technique.

Instrumentation

Measurements:

Two oral and two written tests, plus an attitude survey, were used. They were given before and after the taped or script lessons had been studied.

Oral Tests:

The oral tests were:

(1) Extempore Autobiographical Talks. These talks followed an outline including: Name, School Experience, Hobbies, Interests, and Plans for the Future. They were taped, and the deviations within one minute of speech were counted and categorized under three headings: (a) Substitutions and Additions, (b) Omissions, and (c) Verbs and Structural Deviations.

(2) Impromptu Business Interviews. These were individual office-type interviews in which the student pretended he was applying for an after-school job. Students were ushered to a room where the interview could be

held in private. Teacher I interviewed individually students from Teacher II's class, and *vice-versa*. To insure that answers to questions were impromptu, the order was frequently changed, and friendly remarks were inserted in an attempt to make the student feel comfortable. The following questions were asked and, in general, the interview proceeded as follows:

> Hello. Come in and sit here, please.
> What is your name and your school grade?
> What school do you attend?
> In what year were you graduated from the eighth grade?
> Since we are recording, will you answer in complete sentences, please.
> Where did your mother live when she was a little girl--in some other state, perhaps?
> Where does your best friend live now?
> What can you say about your attendance record?
> What are your average marks in most subjects?
> Since our pay is less than a dollar an hour for part-time student help, what is the lowest hourly wage you would consider?
> Thank you. We'll call you.

These questions were chosen because the responses might contain vowel substitutions such as in *tin* for *ten*, *Cintral Hæ* for *Central High*, and *næn* for *nine*. They might also contain the use of *stays* for *lives* and the lack of agreement between the subject and the verb as in *She live at*. The "attendance record" question might elicit, *It be* or *I don't never*, and the "average marks" question might bring forth, *They's mosely* or *I gets*. The last question was for the purpose of hearing whether or not the student included the *s* on *cents*.

The interviews were taped, and in evaluating them, the number of deviations in the first-sentence answers to these specific questions were counted and categorized under the same three headings used in the extempore talks.

Written Tests:

The written tests were:

(1) The Usage Recognition Test. The Detroit Public Schools English Usage Test by Helen Hanlon, et al, with one substitute section, was used, as shown in Appendix B. In categorizing scores as shown in Table 10 the types of usage were combined in some sections to limit the number of categories to the following: (a) Agreement of Subject and Verb, (b) Pronouns, Adjectives, and Adverbs, (c) Verbs and Troublesome Words, (d) Punctuation, and (e) Non-Standard Expressions (entitled "Usage" on the test).

(2) A Written Autobiography. This writing followed the presentation of the extempore talks. Emphasis was on developing each of the outline items into a paragraph. Deviations within the first one hundred words were counted and categorized under the following headings: (a) Substitutions and Additions, (b) Omissions, (c) Agreement, (d) Verbs and Structural Deviations, (e) Written Symbols (Capitalization, Punctuation, and Paragraphing), and (f) Spelling.

Attitude Inventory

Shown in Appendix B, pages 137-38, the written attitude inventory was prepared by the author and given before and after the special lessons. It permitted a survey of the general attitude of the student toward speech improvement and toward the Language Laboratory class. The initial writing of the Attitude Inventory came after the first two tape or script lessons, and after the Course Content (Appendix B, page 149) had been discussed and students had written about their aims in letters to the parents and to the teacher. It reflected their prospective attitude based on knowledge of the course plan. The final writing showed attitudes based on individual accomplishment. The seven specific items from the test that were chosen for the rating are the following:

1. (1) Do you think it would be to your advantage to speak more clearly and effectively?

2	-2	1	-1
Yes	No	Maybe	Not much

2. (11) Do you think use of a tape recorder can help you to improve speech?

2	-2	0	1	-1
Yes	No	I don't know	I hope so	Not much

3. (17) Have you noticed any improvement in your own speech recently?

2	-2	-1	0	1
Yes	No	Not much	Haven't thought about it	Some

4. (21) This course has helped, or will help, my listening ability to

2	0	-2
increase	remain the same	decrease

5. (22) I plan to do, or have done,
    2 -2 0
    / more / less / the same amount of / writing in this class than (as) I usually do in other English classes.

6. (23) I plan to do, or have done,
    2 -2 0
    / more / less / the same amount of / reading than (as) I usually do in other English classes.

7. (27) If I had a choice, I
    2 -2
    / would / would not / sign up for another class of this type.

These questions were measured on a four-point scale as shown, with two positive, two negative, or a zero judgment possible. A total of fourteen points indicated a perfect attitude.

Class Materials:

The reading kit of paper-backed books consists of two titles, Mirrors, edited by Robert A. Bennett, and Best Television Plays, edited by Gore Vidal. In both sets there are sufficient copies for everyone in the class to provide common learning material, and a like number of separate titles on the same theme to provide diversified reading to take care of differences in interest and ability levels. The television plays are particularly appropriate because of the stage directions which include a wealth of verbs in the third person singular, present tense, as in, "He crosses the room, raises the window, and shouts."

The Three-Book Communications Skills, first published by the author in 1954, was used as the reference handbook because of the simplification of basic rules of grammar and punctuation with the use of "Three" combinations as a memory aid. It also provided the spelling list, letter form, and paragraphs about the "ideal" person used in one of the taped lessons.

For reinforcement exercises, pupils used Scholastic Magazines' Practical English Language Skills Workbook No. 2, a paper covered workbook available for fifteen cents when the order accompanies an order for Practical English (magazine).

Preparation

Before beginning the experiment, the following steps were taken:

Lessons in English were written as scripts for tape. Care was taken that they:

(1) Present all the major structures of the language.
(2) Use newer linguistic concepts while retaining identity with some of the old terminology.
(3) Progress from simple to complex.
(4) Give repetitive practice for habit formation.
(5) Use many different techniques for pupil participation to hold interest.

(6) Incorporate some writing, spelling, and punctuation to integrate language skills as well as to help to hold attention.

(7) Attempt frequently to keep the student motivated toward self-improvement.

(8) Focus on repetition of sounds, words, and usages most needed to help students develop good Northern Urban language patterns.

(9) Include Skinner's theories as used in programmed learning.

(10) Contain a brief assignment and a summary of each lesson.

Voices were chosen that:

(1) Are rich and pleasing, both male and female.

(2) Represent a variety of regional, racial, and national backgrounds to illustrate that good speech is a learned activity.

Taping was done at a professional studio, Station WEXL-WOMC, on Ampex equipment. Copies of the tapes were made for class use at Station WDTR, the Detroit Schools' station. Tapes were tried by students for review in an eleventh-grade class and by several teachers, and subsequent revisions were made. (See Evaluation Form for Tapes in Appendix B, page 157.)

Scripts were duplicated in the necessary quantity.

Plans for daily class procedure were carefully organized.

Duplicated Forms, such as letter forms for parents, course content sheets, and suggested composition topics, were prepared and filed for class use.

Steel Cabinets were procured to house tapes and materials.

Written Tests were prepared.

Conditions

Other than the difference between audio and video presentations for each student once each week for thirteen weeks, care was taken to keep conditions constant for both groups.

The Laboratory:

All four classes met in Room 230, a corner room designated as the English Language Laboratory. It is an average size classroom containing a teacher's desk and thirty movable chairs. Along the back and side wall are twelve booths, six on a side, in which the students sit with their backs to the class. The booths have table-high shelves and are partitioned with plywood, with peg-board at the back to prevent distraction from the windows. Earphones may be plugged in to receive sound from one of two tape recorders bolted to a table in the corner. In addition to wall cupboards, there are two steel cabinets for tapes, books, and materials, one containing twenty-seven drawers for scripts and other duplicated sheets of 8½" x 11" size.[3]

Designation of Classes:

Increased enrollment necessitated having two homeroom periods, II and IX hours, instead of the usual one III hour. The hours for the experiment had been set purposely to avoid the lengthened homeroom period. To offset the feeling of closeness that develops between the students and their homeroom teacher, thereby increasing their incentive to work, it seemed advisable to give this advantage to a control class. For this reason, it was decided on the first day, before the classes met, to designate Teacher-Time as follows:

II	Period	Control Class	Teacher I
IV	Period	Experimental Class	Teacher II
VI	Period	Experimental Class	Teacher I
VII	Period	Control Class	Teacher II

The two experimental classes were placed consecutively for convenience with the tape recorder.

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[3] Teachers who are unable to assemble laboratory equipment even to the limited extent described here will be interested to know that a series of thefts in schools throughout the city, five of which occurred at Central High School between April 24 and October 10, 1961, included, along with typewriters and other audio-visual equipment, the two tape recorders assigned to this project. The experiment was, therefore, conducted with one shared recorder brought to the room for the hours it was needed to transmit to our earphone stations. Such an arrangement is possible in even the most poorly equipped schools.

Order of Scripts and Tapes:

An administrative decision to move up the pre-final examinations to the sixteenth week instead of the eighteenth altered plans to complete the series of fourteen script-or-tape lessons before giving the Written Usage Test as a part of the pre-final examination. The adjustment was made by postponing the twelfth tape and script, which is a vocabulary lesson not pertinent to the Usage Test. Tape and Script EGW-12 was then given in the seventeenth week before the oral tests and before the final testing instrument, the Written Autobiography.[4]

Procedures for Data Collection

Random assignment procedures were applied to the students scheduled by each counselor to be placed in the general sections of 10A English. The students' names on each counselor's alphabetical list were assigned the numbers 1-4 repeatedly, and the students with the same numbers were placed in each of the four classes. The counselors first had determined this list of students to be not "remedial" and not "accelerated" but "general" on the basis of the following:

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[4] Following the numbering system learned from Stack, op. cit., p. 64, the letter E stands for English; G represents the title, "The Golden Series of English Language Lessons"; W stands for the title of this particular lesson, "Word Mastery"; and the number following the dash represents the order number of the lesson.

(1) School and College Ability Test Verbal Score, when available,

(2) Sequential Tests of Educational Progress Reading Score, when available,

(3) Marks in two previous semesters of English,

(4) Written recommendations of teachers,

(5) Acceptable attendance record.

The four classes involved in the experiment were started with between 28 and 30 students each, whose classes met for a forty-five minute period five days a week for one semester of twenty weeks. Each class was divided into three groups which rotated their activities on the three middle days of the week. The activities were designated speaking, reading, and writing. The speaking section worked in individual booths, where the experimental group listened to and repeated the taped lesson, and the control group read from script either silently or aloud. While the speaking section was at the booths, the reading section read silently, and the writing circle worked with the teacher.

Since the group arrangement made all participating classes different from most, and since all classes were using the tape recorder more than most other classes, no special attention was called to the difference in procedure between experimental and control groups, but any questions regarding the experiment were answered truthfully.

Presentation:

All classes were given the same orientation and stimulation to motivate improvement. The presentation was developed essentially from the following questions and statements:

1. What is English, and why do we have courses in it?
2. Which phase of language study is most basic?
3. How did we learn to speak?
4. Why must we grow in speech usage?
5. We are fortunate to have a class that meets in such an interesting room and to have an opportunity to try out new techniques which we believe may be more helpful.
6. In following the Mirrors theme this semester, let us take a look at our language to discover our weaknesses and strengths.
7. Since we are judged by our speech, and our future employment may be determined by the language we use, we must gain practice in speech usage that is acceptable in most social and business situations.
8. To grow in language proficiency, we must give serious thought and effort to building adequate speech habits.

Students were given a copy of the Course Content to take home and a form on which to complete a letter to parents (shown in Appendix B) which they returned with the parent's signature. After this experience with letter form, students next wrote a letter to the teacher stating aims for the semester. While they wrote, fees were collected, The 3 Book, Communication Skills distributed, and a spelling lesson assigned from it. Spelling was motivated from student writing, and eight weekly spelling lessons thereafter were presented from tape to both experimental and control classes.

Students were oriented to tape recording by giving a one-sentence name introduction into the microphone. Through listening to play-back and general comments, the students considered the effect of their voices upon others and were encouraged to use better diction.

The Teacher's Manual for the Mirrors kit provided ideas for introducing students to the general reading phase of the course. Duplicated comment sheets were substituted for most of the other activities suggested in the Manual.

Testing Procedures:

Following general orientation and the setting of aims, the written English Usage Test was administered. The stated object was to see how well the class recognized good language usage. When these were corrected, students were shown their results and they were encouraged to ask questions regarding a particular usage before the tests were collected. Other than this, there was no direct teaching to this test, and students did not know that this particular test would be given again.

Initial Tests:

The First Oral Test, a taped extempore autobiographical talk, was given next, after students had been oriented to recording. These tapes have been preserved with the written tests as data. Following this oral presentation, students wrote the Autobiography, improving on the ideas presented in the talks.

For further growth in oral presentation and to orient students to Impromptu Speaking, cards containing famous character-building quotations or adages, such as Benjamin Franklin's, were distributed. Each student had a choice from among three or four. He then took his turn immediately to present the adage and to state in his own words what it meant to him. From this, students were urged to learn about those whose words have become famous, and were assigned to write a biography of a famous person.

The Second Oral Test, a taped impromptu business interview, was a part of a unit on "Getting a Job." Each student filled out an application form which he brought to the interview. Each also wrote a letter of application. The taped interview and the application became a part of the data.

Following the business interview, the first lesson of the Language Series was played as an open lesson for all students in all classes to hear. It was followed by a discussion for the purpose of motivating speech and language improvement. This took place on Monday of the fifth week, and the next day the three-group activity began with one-third of each experimental class going to the booths to hear the second tape, and one-third of each control class going to the booths to read the script of the same lesson.

Attitude Inventory:

On Monday of the sixth week, following the first experience with the three-group plan, students were given the Attitude Inventory, entitled "Questionnaire for Participants in Central High School's English Language Laboratory."

The three-group work continued for the next twelve weeks. During this time, among other English activities, students were writing and rewriting at least four compositions on a related topic of their own choosing. They added a preface and table of contents, prepared an artistic cover, and bound these into a booklet which they later presented to the class. Another oral activity was "The Inquiring Reporter" during which each student was interviewed in turn by a student "reporter" who asked questions from a list which all had had time to consider.

Final Tests:

The first Final Test, the written English Usage Test, was given as a part of the pre-final examination. The Business Interviews were then recorded with the same questions asked as in the pre-test. Booklets were next presented orally. This was followed by the taped Extempore Autobiographical Speech. Students were given the same outline for this extempore speech as before, with the thought that it should be more interesting to the class since they were better acquainted at the end of the term. Following the oral presentation, they wrote an Autobiography to demonstrate their mastery of writing skills. Before handing it in, each counted and marked off his first one hundred words. The Attitude Inventory was then given again with the purpose of seeing if their attitude toward speech improvement and toward the class work had changed.

General Information Forms:

During the early part of the semester, a form entitled "General Information Related to Language Back-Ground" was distributed and completed. This was an important part of the data collection, since it indicated the factor of Education of Parents.

For the final examination, "Twenty Questions, a Language Autobiography," adapted from an article by Wolfe, was used.[5] This was not a part of the important data, but was an appropriate conclusion to the course, and will be included in Appendix B with other class materials.

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[5] Don M. Wolfe. "A Grammatical Autobiography," The English Journal, XLIX (January, 1960), 16-21.

CHAPTER IV

DATA ANALYSIS AND FINDINGS

Analytical Techniques

When dealing with the description of the factorial grid, the point was made that the application of the statistical technique of Covariance Analysis permits the sorting out of the covariance effects involved in experimentation. The process breaks down the sum of products of deviations of any two variables from their means and assigns the respective components to specified sources. Since it was desirable to determine the effect of the taped lessons, exclusive of these factors, the Analysis of Covariance Technique was employed as the design for this study.[1]

Factorial Grid

The first step in carrying out the analysis was to establish the factorial grid shown in Chapter III, page 51, and repeated here in Tables 1-5, pages 73-77, with entries which represent the five types of tests administered. The grids show raw scores in seventy-two cells, each of which is placed to show relationship to each of the five variable factors to be analyzed. The initial and final test scores are denoted by (X) and (Y), respectively. The two groups, Experimental and Control, are shown first. Sex provides the second variable. The third, Education of Parents, is represented by the digits (1), (2), and (3), representing: (1) both parents having no more than eighth grade education, (2) both parents having high school education, and (3) one or both parents having had at least one year of college. Teachers and time are grouped together as the fourth variable, Teacher-Time, because each teacher taught one experimental and one control class, with one in the morning and one in the afternoon. They are indicated by Greek letters with (α) representing Morning and (β) representing Afternoon. For the fifth variable, High, Average, and Low Mental Abilities are denoted by (H), (A), and (L), respectively.

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[1] The reader who may not be interested in the technical aspects covered in this chapter will find the study summarized in Chapter V, beginning page 96.

Each cell represents a student who fits the description determined by reading the grid from the top down, including the two factors shown on the left. For instance, the third cell in the first row shows the scores for the student who is in the Experimental group, a male, with at least one parent who has had some college education. He is in the morning class and rates relatively high in mental abilities.

To further facilitate the understanding of the

TABLE 1

FACTORIAL GRID

EXTEMPORE AUTOBIOGRAPHICAL SPEECH

Mental Abilities	Teacher-Time	Experimental Group												Control Group											
		Male Subjects						Female Subjects						Male Subjects						Female Subjects					
		Educ.of Parents						Educ.of Parents						Educ.of Parents						Educ.of Parents					
		1		2		3		1		2		3		1		2		3		1		2		3	
		X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
H	α	7	8	7	10	12	6	11	14	8	7	18	13	14	11	8	13	7	9	2	6	5	5	15	11
	β	24	14	11	6	20	12	9	7	19	7	14	7	25	16	9	20	8	10	9	6	12	12	17	9
A	α	9	9	20	12	9	9	11	9	15	13	18	8	14	11	15	9	7	12	10	7	8	6	11	9
	β	8	5	8	8	6	5	4	8	16	10	8	5	15	11	13	20	2	4	10	16	8	15	7	10
L	α	21	9	21	13	17	11	16	11	15	7	18	12	11	10	10	10	10	9	22	12	11	10	13	10
	β	6	10	22	13	9	5	8	8	7	9	9	3	11	9	9	9	5	7	7	15	12	9	3	8

Mental Abilities: H - High
A - Average
L - Low

Teacher-Time: α - Morning
β - Afternoon

Education of Parents: 1 - Eighth Grade
2 - High School
3 - College

Measures: X - Initial Score
Y - Final Score

Lower final score shows improvement.

TABLE 2

FACTORIAL GRID

BUSINESS INTERVIEW

Mental Abilities	Teacher-Time	Experimental Group												Control Group											
		Male Subjects						Female Subjects						Male Subjects						Female Subjects					
		Educ.of Parents						Educ.of Parents						Educ.of Parents						Educ.of Parents					
		1		2		3		1		2		3		1		2		3		1		2		3	
		X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
H	α	8	5	9	1	7	4	12	6	4	8	12	8	10	9	11	7	4	6	9	9	7	4	15	8
	β	17	10	11	8	14	11	10	5	3	3	11	8	13	10	6	11	11	12	11	11	14	16	8	7
A	α	8	5	14	5	10	7	9	3	13	8	12	7	17	9	12	16	10	10	10	7	4	4	7	6
	β	10	5	19	8	7	3	11	6	16	8	5	3	11	7	16	14	6	9	12	13	13	10	5	11
L	α	6	4	12	6	3	4	10	4	6	3	10	6	10	9	15	4	12	7	14	8	9	5	11	9
	β	12	7	15	11	5	3	14	5	13	14	10	2	15	9	14	12	4	3	10	15	13	10	7	8

Mental Abilities: H - High
A - Average
L - Low

Teacher-Time: α - Morning
β - Afternoon

Education of Parents: 1 - Eighth Grade
2 - High School
3 - College

Measures: X - Initial Score
Y - Final Score

Lower final score shows improvement.

TABLE 3

FACTORIAL GRID

WRITTEN USAGE TEST

Mental Abilities	Teacher-Time	Experimental Group												Control Group											
		Male Subjects						Female Subjects						Male Subjects						Female Subjects					
		Educ.of Parents						Educ.of Parents						Educ.of Parents						Educ.of Parents					
		1		2		3		1		2		3		1		2		3		1		2		3	
		X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
H	α	66	85	77	82	65	70	65	71	60	71	80	89	82	92	71	82	76	85	55	76	72	79	76	94
	β	75	76	82	100	87	93	67	80	91	101	82	85	82	85	70	66	71	74	75	78	80	92	78	87
A	α	47	54	60	72	46	74	79	85	42	60	59	72	70	76	51	60	60	66	68	71	56	74	68	76
	β	62	77	81	88	39	72	78	77	72	77	78	90	66	70	59	61	75	73	64	62	73	72	67	73
L	α	43	65	38	57	66	64	67	82	62	78	59	80	46	67	31	51	68	73	43	61	54	55	72	82
	β	64	73	61	65	65	70	35	55	59	78	63	83	46	64	51	50	40	49	63	68	61	61	72	69

Mental Abilities: H - High
A - Average
L - Low

Teacher-Time: α - Morning
β - Afternoon

Education of Parents: 1 - Eighth Grade
2 - High School
3 - College

Measures: X - Initial Score
Y - Final Score

Higher final score shows improvement.

TABLE 4

FACTORIAL GRID

WRITTEN COMPOSITION

Mental Abilities	Teacher-Time	Experimental Group												Control Group											
		Male Subjects						Female Subjects						Male Subjects						Female Subjects					
		Educ. of Parents						Educ. of Parents						Educ. of Parents						Educ. of Parents					
		1		2		3		1		2		3		1		2		3		1		2		3	
		X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
H	α	24	1	11	3	15	9	7	5	9	7	10	3	6	7	13	5	3	2	10	4	3	2	2	2
	β	9	2	5	4	11	2	12	7	6	0	10	3	8	1	5	1	12	4	14	5	8	4	6	3
A	α	10	7	8	2	25	18	24	1	22	10	26	10	4	6	18	15	15	6	9	3	10	5	13	7
	β	16	3	11	0	9	6	9	6	5	2	9	4	18	20	15	6	18	12	11	3	10	7	17	6
L	α	22	11	25	23	20	8	27	11	9	2	12	2	15	11	28	14	11	11	15	4	13	4	12	4
	β	9	7	8	1	10	1	9	5	9	5	9	4	8	5	10	6	19	8	8	4	11	2	10	1

Mental Abilities: H - High
A - Average
L - Low

Teacher-Time: α - Morning
β - Afternoon

Education of Parents: 1 - Eighth Grade
2 - High School
3 - College

Measures: X - Initial Score
Y - Final Score

Lower final score shows improvement.

TABLE 5

FACTORIAL GRID

ATTITUDE INVENTORY

Mental Abilities	Teacher-Time	Experimental Group												Control Group											
		Male Subjects						Female Subjects						Male Subjects						Female Subjects					
		Educ. of Parents						Educ. of Parents						Educ. of Parents						Educ. of Parents					
		1		2		3		1		2		3		1		2		3		1		2		3	
		X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
H	α	14	10	8	10	6	7	12	9	10	10	2	6	11	13	5	14	10	6	9	10	7	13	10	12
	β	9	10	11	14	11	14	11	5	14	11	13	13	3	6	7	10	12	14	9	9	6	14	7	14
A	α	11	11	10	14	11	14	6	7	8	13	8	14	5	10	6	14	8	7	7	10	14	14	14	14
	β	14	14	7	7	7	12	12	14	14	6	10	14	13	13	5	11	12	13	4	4	10	14	12	7
L	α	12	14	0	14	7	12	0	8	7	13	14	14	6	14	14	14	13	8	12	9	6	9	5	13
	β	3	14	8	14	11	12	5	14	9	14	13	14	14	13	6	9	8	8	3	14	3	8	5	11

Mental Abilities: H - High
A - Average
L - Low

Teacher-Time: α - Morning
β - Afternoon

Education of Parents: 1 - Eighth Grade
2 - High School
3 - College

Measures: X - Initial Score
Y - Final Score

Perfect Score = 14 points.

analysis, the symbols (X) and (Y) are defined as follows:

(X) = the initial score of the individual of the particular Group, Sex, Education of Parents, Teacher-Time, and Mental Abilities.

(Y) = the final score of the individual of the particular Group, Sex, Education of Parents, Teacher-Time, and Mental Abilities.

In the above definitions, G = 1, 2; S = 1, 2; E = 1, 2, 3; T = 1, 2; M = 1, 2, 3. Thus, 2 x 2 x 3 x 2 x 3 = 72, the total number of cells in the grid.

Sums of Squares and Products

The next step was that of attaining all the sums of squares and products required for the analysis shown in Table 6, pages 81-83, and Table 7, page 84, following the notation for each quantity.

The application of the method involves the calculation of sums of squares of the independent variable (x), the dependent variable (y), and the sums of products of the independent variable with the dependent variable. The dependent variable (y) is then adjusted, or reduced, and the F-ratio applied to test the Null Hypotheses. These values are obtained by applying the appropriate formulas illustrated in Figures 2 and 3, Appendix A, pages 143-46.

Tests of Significance of Interactions

The significance of the interaction is tested first. The final phase of the analysis resulting in the tests of significance of the several hypotheses for Extempore Speech is given in Table 6. The Null Hypothesis being tested in each case is expressed in general terms and is found in a footnote at the bottom of Table 7. Table 6 shows all of the interactions for the Extempore Speech, and Table 7 shows the interaction of significance for the Business Interview. Other interactions for the Business Interview may be seen in Table 13, Appendix A, pages 131-32. The final phase of the other three tests is also given in Appendix A, Tables 14, 15, and 16, pages 133-38.

The most significant findings of this experiment can best be seen in Table 6 where the complete analysis of covariance of the final scores and the partialling out of the effect of the initial score (X) for the Extempore Speech test are presented. The first seven columns of figures through the mean square were computed by machine analysis at the Wayne State University Computation Center. As can be seen in the first row, through the process of adjusting the dependent variable (y) for the independent variable.(x) from the error (highest order interaction) term, one degree of freedom ascribed to error has been used in the computation (4 D.F. became 3 D.F.).

The reduced sum of squares assigned to error was divided by the corresponding number of degrees of freedom to obtain the mean square (.595). This value was the appropriate one for testing the significance of the other interactions for this oral test. The results form column eight, the F-ratio, which is the mean square divided by the mean square of the highest order interaction (.595). A desk calculator simplified this division process.

F Distribution

The next action was to consult a table for the "F Distribution, Upper 5% Points ($F_{.95}$)."[2] In reading the F Distribution Table, the figure for the degrees of freedom for the highest order interaction (3) became the denominator, and the other required set of degrees of freedom was that associated with each interaction in the numerator of the ratio. If the observed value of the F-ratio were greater than the critical value of the F-ratio found in the F Distribution Table, it could be said that the interaction was significant at the .05, or five per cent, level of significance.

Results of Analysis of Covariance Tests

In analyzing the results produced by the covariance technique, the values in Table 6 show that the first factor

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[2] Wilfred J. Dixon and Frank J. Massey, Jr., Introduction to Statistical Analysis (New York: McGraw-Hill Book Co., Inc., 1957), p. 388.

TABLE 6

TEST OF SIGNIFICANCE OF INTERACTIONS FOR THE EXTEMPORE SPEECH

Variables	D.F.	Σx^2	Σy^2	Σxy	D.F.	Adjusted Σy^2	Adjusted Mean Sq.	F-Ratio	Null Hypothesis
1. GxSxExTxM	4	108	2	-5	3	1.78	.595	---	
2. GxSxExT	2	9	32	6	2	32.46	16.229	27.28	Rejected (.05)
3. GxSxE xM	4	108	19	43	4	12.88	3.220	5.41	
4. GxS xTxM	2	36	1	6	2	1.70	.852	1.43	
5. G xExTxM	4	6	56	-8	4	55.18	13.796	23.18	Rejected (.05)
6. SxExTxM	4	41	46	20	4	45.32	11.332	19.04	Rejected (.05)
7. GxSxE	2	18	11	8	2	11.38	5.690	9.56	Rejected (.05)
8. GxS xT	1	3	12	6	1	11.94	11.947	20.08	Rejected (.05)
9. GxS xM	2	76	48	47	2	39.28	19.642	33.01	Rejected (.01)
10. G xExT	2	4	23	2	2	23.06	11.530	19.38	Rejected (.05)
11. G xE xM	4	16	43	23	4	40.72	10.182	17.11	Rejected (.05)

TABLE 6
(Continued)

TEST OF SIGNIFICANCE OF INTERACTIONS FOR THE EXTEMPORE SPEECH

Variables	D.F.	Σx^2	Σy^2	Σxy	D.F.	Adjusted Σy^2	Adjusted Mean Sq.	F-Ratio	Null Hypothesis
12. G xTxM	2	18	16	5	2	17.04	8.524	14.32	Rejected (.05)
13. SxExT	2	81	2	11	2	1.96	.982	1.65	
14. SxE xM	4	185	27	50	4	20.33	5.083	8.54	
15. S xTxM	2	14	52	24	2	49.48	24.742	41.58	Rejected (.01)
16. ExTxM	4	73	12	-16	4	9.30	2.327	3.91	
17. GxS	1	.01	5	- .2	1	4.98	4.986	8.38	
18. G xE	2	126	4	- 2	2	4.79	2.397	4.03	
19. G xT	1	17	82	37	1	74.44	74.441	125.12	Rejected (.01)
20. G xM	2	24	7	12	2	6.86	3.432	5.77	
21. SxE	2	156	38	32	2	35.64	17.821	29.95	Rejected (.05)
22. S xT	1	21	2	7	1	2.60	2.598	4.36	

TABLE 6
(Continued)

TEST OF SIGNIFICANCE OF INTERACTIONS FOR THE EXTEMPORE SPEECH

Variables	D.F.	Σx^2	Σy^2	Σxy	D.F.	Adjusted Σy^2	Adjusted Mean Sq.	F-Ratio	Null Hypothesis
23. S xM	2	4	25	7	2	25.58	12.793	21.50	Rejected (.05)
24. ExT	2	56	77	66	2	54.90	27.450	46.13	Rejected (.01)
25. E xM	4	164	30	65	4	16.77	4.194	7.05	
26. TxM	2	438	19	82	2	8.98	4.493	7.55	
27. G	1	105	45	-69	1	19.53	19.539	32.84	Rejected (.01)
28. S	1	8	15	11	1	15.08	15.083	25.35	Rejected (.05)
29. E	2	15	62	30	2	57.43	28.719	48.27	Rejected (.01)
30. T	1	42	.01	.76	1	.14	.140	---	
31. M	2	43	1	5	2	1.71	.857	1.44	

TABLE 7

TEST OF THE SIGNIFICANT INTERACTION IN THE BUSINESS INTERVIEW

Variables	D.F.	Σx^2	Σy^2	Σxy	D.F.	Adjusted Σy^2	Adjusted Mean Sq.	F-Ratio	Null Hypothesis
1. GxSxExTxM	4	34	49	17	3	40.63	13.545	---	
2. G	1	.9	171	12	1	155.22	155.221	11.46	Rejected (.05)

VARIABLES

G = Group, S = Sex, E = Education of Parents,
T = Teacher-Time, M = Mental Abilities

THE HYPOTHESIS TESTED IN TABLES 6-16

1. The null hypothesis that is being tested concerns the variation in the same row. For example, the hypothesis regarding Group x Sex x Education x Mental Abilities (Table 6, line 3) is that there is no significant interaction between Group, Sex, Education, and Mental Abilities when the effect of Teacher-Time is partialled out.

2. The null hypothesis that is being tested concerning the variation in the same row where only one factor appears (rows 27, 28, 29, 30, and 31, Table 6--Group, Sex, Education, Teacher-Time, and Mental Abilities, respectively) is that there is no significant difference between the factors' mean scores when the effect of initial score has been partialled out.

partialled out (Mental Abilities) resulted in an interaction among Group x Sex x Education of Parents (hereafter called Education) x Teacher-Time significant at the five per cent level. This means that the probability of the interaction among this combination of factors' producing any other result by chance would be less than five times out of one hundred. The next two third-order interactions (four factors), one with Teacher-Time and the other with Education, respectively, partialled out, did not meet the test, but the following two third-order interactions, one with Sex and the other with Group singled out, respectively, were significant at the .05 level.

All second-order interactions (three factors) were significant at the five per cent level except three. The significant combinations were the following: Group x Sex x Education; Group x Sex x Teacher-Time; Group x Sex x Mental Abilities; Group x Education x Teacher-Time; Group x Education x Mental Abilities; Group x Teacher-Time x Mental Abilities; and Sex x Teacher-Time x Mental Abilities. It should be noted that all but the last of the above combinations contained Group..

First-order interactions (two factors) significant at the five per cent level of confidence were: Group x Teacher-Time; Sex x Education; Sex x Mental Abilities; and Education x Teacher-Time. Six other first-order combinations were not significant at this level.

Three single factors: Group partialled out alone, Sex partialled out alone, and Education partialled out alone were significant at the five per cent level, but the remaining two single factors, Teacher-Time and Mental Abilities, were not.

The single factor of Group partialled out alone was also significant at the .05 level for the second oral test, the Business Interview, as shown in Table 7.

The analysis of covariance technique showed no significant interrelationships among the factors at the five per cent level when applied to the two written tests and to the attitude survey. As stated above, the statistical findings from these tests and the survey are shown in Appendix A, Tables 14-16.

There are further facts, however, to be noted in regard to the effects gained in the Extempore Speech. Certain ones of the single factors and interactions among factors for the Extempore Speech test were not only significant at the five per cent level, but according to the table showing "F Distribution, Upper 1% Points ($F_{.99}$),"[3] were significant at the one per cent level. A statement of this nature means that the probability of these combinations' producing any other results of interactions by chance is less than one out of one hundred. In other words, the same results with these combinations could be expected 99 times out of 100. Such a probability ratio is said to be highly significant.

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[3] *Ibid.*, p. 389.

Third-order interactions in the Extempore Speech which met this .01 test were those among Group x Sex x Mental Abilities and among Sex x Teacher-Time x Mental Abilities. In the second-order series, Group x Teacher-Time and Education x Teacher-Time were highly significant combinations. Single factors that were highly significant at the .01 level are the factor of Group and the factor of Education.

Significance of Factors

While the findings show no instances of rejection of the Null Hypotheses at the .05 level for the written tests, they do show one rejection in the Business Interview and seventeen instances of rejection in the Extempore Speech.

The factor of Group alone caused the one rejection of the Null in the Business Interview. In the Extempore Speech, Group alone caused rejection of the Null at the highly significant .01 level. Group combined with Teacher-Time also permitted the Null to be rejected at the .01 level; likewise when combined with Sex and Mental Abilities the rejection was based on the .01 level. The factor of Group occurred in ten of the seventeen rejections.

Education of Parents was the only other single factor significant at the .01 level in the Extempore Speech.

As with Group, Education combined with Teacher-Time allowed the rejection of the Null at the .01 level. The factor of Education occurred in nine of the seventeen rejections.

Sex alone caused the Null to be rejected at the .05 level. Sex combined with Mental Abilities caused rejection at the same level; likewise when combined with Education. The combination of Sex with both Teacher-Time and Mental Abilities caused rejection at the .01 level. This was also true when Sex was combined with both Group and Mental Abilities. The factor of Sex occurred in nine of the seventeen rejections.

Descriptive Analysis

Having completed the above statistical analysis, the data computed on the Master Data Sheets (see Appendix A, Tables 17 and 18, pages 139-42) were now examined, simple mathematical procedures applied, and tables prepared. The major objective was to determine which Group, which level of Education of Parents, which Sex, which Teacher-Time, and which level of Mental Abilities made the significant differences. On the Master Data Sheets, each individual student is designated by a subject number corresponding to his numerical position in relation to the factors shown on the grids (pages 73-77).

Since the test of major significance was the Extempore Speech, answers to the above questions can best be found in Table 8, page 90, which gives "Means of Factors in Extempore Speech." This table was devised from computations based on the raw scores on the grid in Table 1 through the simple process of adding all the scores in a single category and dividing by the number of items in the category to get the mean.

Table 8 also shows the difference between the final and the initial means, found by subtraction. The column labeled Difference reveals the answers to the pertinent questions. No conclusions will be drawn here, but attention is called to the findings that reveal which elements of the factors predominate; namely, the Experimental Group, the Female Sex, College Education, the Morning Teacher-Time, and either Low or High Mental Abilities in preference to Average.

Further findings based on Groups are arranged in Tables 9-12. Table 9, page 91, shows "Means of All Tests by Groups" and lists the "Improvement Points" in means for each group. The Experimental Group had a total of 30.11 improvement points while the Control Group's figure was 16.18, based on all five tests.

Tables 10, 11, and 12, pages 92, 93, and 94, respectively, present the "Classified Means" taken from the Master Data Sheets for the four tests and for the Attitude Inventory. Table 10 shows the two written achievement tests. (For the

TABLE 8

MEANS OF FACTORS IN EXTEMPORE SPEECH
(Scores Based on Deviations Heard)

	INITIAL	FINAL	DIFFERENCE	SIGNIFICANCE
GROUPS				
Experimental	12.80	8.97	3.83	.01 G*
Control	10.44	9.02	1.42	---
SEX				
Male	11.94	10.13	1.81	---
Female	11.27	9.27	2.00	.05 S
EDUCATION OF PARENTS				
(1) 8th Grade	11.83	10.08	1.57	---
(2) High School	12.04	10.54	1.50	---
(3) College	10.95	8.50	2.45	.01 E
TEACHER-TIME				
(α) Morning	12.38	9.75	2.63	.01 TG TE
(B) Afternoon	10.80	9.66	1.14	---
MENTAL ABILITIES				
(H) High	12.12	9.95	2.17	.05 MS
(A) Average	10.50	9.62	.88	---
(L) Low	12.20	9.54	2.66	.01 MGS MTS

*The single letter indicates the factor partialled out alone. Others represent the combinations of factors which were significant at the indicated level. G = Groups, S = Sex, E = Education of Parents, T = Teacher-Time, and M = Mental Abilities. DIFFERENCE = the score gained by subtracting the FINAL from the INITIAL mean, to indicate the extent of improvement.

TABLE 9

MEANS OF ALL TESTS BY GROUPS

TEST	EXPERIMENTAL GROUP		
	Initial	Final	Improvement
Written Usage Test	64.50	76.41	11.91
Written Composition*	13.11	5.41	7.70
Oral Extempore*	12.80	8.97	3.83
Oral Business Interview*	10.22	5.99	4.23
Attitude	9.11	11.55	2.44
Total Improvement Points in Means			30.11

TEST	CONTROL GROUP		
	Initial	Final	Improvement
Written Usage Test	64.22	71.50	7.18
Written Composition*	11.33	5.80	5.50
Oral Extempore*	10.41	10.44	-.03
Oral Business Interview*	10.44	9.02	1.42
Attitude	8.36	11.00	2.64
Total Improvement Points in Means			16.81

*Lower score shows greater proficiency.

TABLE 10

CLASSIFIED MEANS OF WRITTEN TESTS

USAGE scores - Number Correct				
USAGE TEST	EXPERIMENTAL		CONTROL	
	Initial	Final	Initial	Final
Agreement (Sub.& Verb)	8.22	9.55	7.47	8.30
Pronouns,Adjectives & Adverbs	15.72	18.55	16.33	17.30
Verbs and Troublesome Words	17.11	19.08	16.33	17.58
Punctuation	10.46	13.77	11.61	13.58
Non-Standard Expressions	13.05	15.44	12.36	14.83
Total (Means)	64.50	76.41	64.22	71.50

COMPOSITION scores - Errors or Deviations				
WRITTEN COMPOSITION	EXPERIMENTAL		CONTROL	
	Initial	Final	Initial	Final
Substitutions & Additions	1.08	.36	.50	.27
Omissions	1.00	.30	.86	.47
Agreement	.28	.16	.55	.22
Verbs & Structural Deviations	.88	.22	.94	.41
Written Symbols (¶ ,Cap.,Punc.)	6.69	3.33	5.25	2.77
Spelling	3.05	1.02	3.19	1.66
Total (Means)	13.00	5.51	11.33	5.83

TABLE 11

CLASSIFIED MEANS OF ORAL TESTS

EXTEMPORE SPEECH scores - Deviations				
EXTEMPORE SPEECH	EXPERIMENTAL		CONTROL	
	Initial	Final	Initial	Final
Substitutions & Additions	4.94	4.80	4.88	5.44
Omissions	6.97	5.16	4.52	4.19
Verbs & Structural Deviations	.80	.25	1.00	.80
Mean of Total Scores	12.80	8.97	10.41	10.40

BUSINESS INTERVIEWS scores - Deviations				
BUSINESS INTERVIEWS	EXPERIMENTAL		CONTROL	
	Initial	Final	Initial	Final
Substitutions & Additions	4.83	2.69	5.88	4.75
Omissions	5.16	2.97	3.72	3.86
Verbs & Structural Deviations	.25	.27	.83	.33
Mean of Total Scores	10.22	5.94	10.40	9.02

TABLE 12

MEANS OF ATTITUDE INVENTORY BY GROUPS

Question	Experimental		Control	
	Initial	Final	Initial	Final
1. Do you think it would be to your advantage to speak more clearly and effectively? Yes/No/Maybe/Not much	2.00	2.00	1.97	2.00*
2. Do you think use of a tape recorder can help you to improve speech? Yes/No/I don't know/I hope so/Not much	1.66	1.75	1.66	1.75
3. Have you noticed any improvement in your own speech recently? Yes/No/Not much/Haven't thought about it/Some	.53	1.50	.39	1.36
4. This course has helped, or will help, my listening ability to increase/remain the same/decrease.	1.50	2.00	1.41	1.96
5. I plan to do, or have done, more/less/the same amount of/writing in this class than (as) I usually do in other English classes.	1.44	1.63	1.33	1.77
6. I plan to do, or have done, more/less/the same amount of/reading than (as) I usually do in other English classes.	.61	1.27	.61	1.05
7. If I had a choice, I would/would not/sign up for another class of this type.	1.25	1.44	1.97	1.11

*A mean of 2.00 = a perfect attitude for the entire group. A score of -2.00 was possible.

MEANS OF TOTALS (14 POSSIBLE)

Experimental		Control	
Initial	Final	Initial	Final
9.11	11.55	8.36	11.00
65.6 %	82.5 %	59.6 %	78.5 %

Usage Test, the higher score shows greater achievement, and for the Autobiographical Composition, the lower score is more desirable.)

All five testing instruments showed means representing greater achievement for the Experimental Group than for the Control Group, but there was not sufficient difference in the written tests to be scientifically conclusive. The analysis of covariance process, however, did reveal scientifically significant findings in regard to changing oral language patterns.

Conclusions regarding the findings will be presented in Chapter V.

CHAPTER V

CONCLUSIONS

Summary of Experiment

The purpose of this study was to test a possible means of helping students to adjust their language patterns to more effective ones for the area in which they now live. It was geared particularly at helping those in Detroit high schools who habitually use a pattern of speech which sets them apart from those who use the pattern in which the major affairs of social and business communications are conducted.

Many variations of speech in sound and form are acceptable. However, a pattern of speech which contains slovenly articulation and non-standard usages, thereby causing negative reactions on the part of employers, puts these students at a disadvantage socially and vocationally in northern urban areas.

Under traditional methods of teaching, some students are able to change their way of speaking, and to achieve the goals which they have set for themselves. Many more, however, succumb to a sense of inadequacy and frustration and drop by the wayside. We should find ways to help a greater number surmount language barriers. To determine whether or not a newer technique might have measurable effect upon changing regional language patterns to more "standard" ones for this area was the focal point of this study.

The specific technique tested was the use of English lessons on tape calling for an immediate response on the part of the student in which he imitates the language sounds and the patterns heard by earphone. This was contrasted with the effect gained by reading the same lessons from duplicated scripts. There are no other English studies known involving instructional tapes for this purpose on the high school level.

A special course plan was devised which enabled one-third of each class to be taking the special lessons either by script or by tape, depending upon whether a control or an experimental group, while the other two-thirds were either reading or working on composition in their respective sub-groups.

This plan of rotating the activities was engaged in during the middle three days of each week and only during the middle thirteen weeks of the semester. There are fourteen taped or script lessons in the series written for this experiment, but one is a beginning, motivational lesson intended to be played as an open lesson for all students in both groups to hear. The actual test, then, concerned just the differences gained in achievement between students who sat at the back of the English classroom in individual booths to hear a taped lesson one day a week for thirteen weeks and those who sat in the same booths to read the same lesson one day a week for thirteen weeks. All other teaching procedure and course content were the same for all four sections comprising the two groups that were involved.

The design chosen for the experiment was adapted to the analysis of covariance technique which permitted the testing of the interactions among five factors: Group, Sex, Education of Parents, Teacher-Time, and Mental Abilities. Significance tests, and the descriptive techniques used, were based upon main effects means for the two oral and two written instruments and for the attitude inventory.

Results of Treatment

As a result of the covariance analysis, the findings of which were presented in Chapter IV, the factor of Group was shown to be highly significant at the .01 level for the Extempore Speech and at the .05 level for the Business Interview. Table 9 presented the mean of each of the sets of scores for both groups. For each testing instrument the mean of the Experimental Group was greater than the mean of the Control Group. Considering the total improvement points (30.11 contrasted with 16.81), we can conclude that the Experimental Group, which used the tapes, did almost twice as well over-all as did the Control Group, which read from scripts. We might also conclude that teaching by tape, which was the only difference in the two groups, and the most pertinent factor in this study, was significant at the .01 level.

Operational Hypothesis (1)

Since the mean of the Experimental Group is greater than the mean of the Control Group, we can reject the Statistical Null Hypothesis for Operational (1):

$$H_0 : \mu_E \leq \mu_C$$

(Null Hypothesis: The mean of the Experimental Group is equal to or less than the mean of the Control Group.)

Having rejected the Null, we can now accept the Statistical Alternative:

$$H_1 : \mu_E > \mu_C$$

(Operational Hypothesis (1): The mean of the Experimental Group is greater than the mean of the Control Group.)

This permits us to accept the Operational Hypothesis in the first dimension which stated:

> (1) Of two groups (the Experimental Group which received the taped lessons by earphone only, and the Control Group which read the scripts without hearing the lessons) the Experimental (auditory) Group would score significantly higher in oral examinations based on Extempore Autobiographical Speeches and Impromptu Business Interviews than would the Control (reading) Group.

We can now accept the Research Hypothesis in the oral dimension. The Research Hypothesis was:

> that a series of listening and repeating lessons containing motivation and explanation of English usage, recorded on tape and transmitted by earphones to students in tenth-grade English classes at Central High School, Detroit, Michigan, would help them to substitute acceptable Northern Urban speech patterns for the unacceptable ones found in patterns of other regions, primarily Southern Rural.

The experiment substantiated the Research Hypothesis in the first dimension. The two oral tests showed that the differences in the effects of the Group alone were significant at the .01 level for the Extempore Speech and significant at the .05 level for the oral Business Interview. The Extempore Speech showed the factor of Education alone significant at the .01 level, and showed highly significant interactions in several combinations of factors. These were the first-order combinations of Education x Teacher-Time, and Group x Teacher-Time, and the second-order combinations of Group x Sex x Mental Abilities, and Sex x Teacher-Time x Mental Abilities. The effects produced by these factors could not be expected to occur by chance more than once in one hundred trials, and thus were highly significant interactions. Further interactions in Extempore Speech were significant at the .05 level as pointed out in Chapter IV.

We can therefore conclude that the taped lessons were highly significant (.01) in helping students to improve speech when they are planning ahead and thinking while they speak as in speaking extemporaneously, and that they are also significant (.05) in impromptu speaking as in an interview in which they spontaneously answer questions. (The questions asked in the test interview were designed particularly to test frequently-heard deviations.)

The lack of other significant interactions in the analysis of the Business Interview points up the need for longer and more intensive practice sessions to make the more "standard" forms automatic. Impromptu speaking brings forth the habitual speech patterns. There was not sufficient change in automatic speech habits to establish significance in regard to other factors. The significant change that did take place was due to the sole factor of Group, and for this word we could substitute the word Tapes.

Operational Hypothesis (2)

The Research Hypothesis was accepted in one dimension only and did not include Operational Hypothesis (2) which states that:

> The lessons with resultant newly emerging speech patterns would have a significant effect on academic achievement in written work as shown in a usage recognition test and in actual writing as well as in attitudes toward self-improvement measured by an inventory instrument constructed by the Experimenter.

The analysis of covariance technique showed no significant interrelationships among the factors when applied to the two written tests. The students did improve in writing as shown in fewer errors on their final compositions and in improved scores on their Written Usage Test, but the differences between initial and final scores were not scientifically significant, and therefore we have no proof that the interactions among factors in regard to them could not have been the result of chance.

To the extent that we can rely upon descriptive techniques, we find support of the statement that students did improve in writing by examining the raw scores from the two written tests as shown on the factorial grids and on the Master Data Sheets.

On the Written Usage Test, all but three students improved, two in the Control, and one in the Experimental Group. On the Written Composition, all students in both groups improved except three in the Control Group. Two of these received the same score on the final as on the initial test.

Results of the Written Tests by Categories

A study of the results of the written tests by the "Classified Means," taken from the Master Data Sheets and shown on Table 10, leads to further conclusions which should be of particular interest and value to English teachers.

Tables 10, 11, and 12, respectively, summarize the means for the separate categories shown on the Master Data Sheets for the four tests and for the Attitude Inventory.

Table 10 shows the two written achievement tests. For the Usage Test, the higher score shows greater achievement, and for the Autobiographical Composition, the lower score is more desirable. Lower means of the total scores for the initial tests show that the students in the Control Group were better writers and had a better grasp of usage at the outset. They had fewer errors in agreement between the subject and verb, had a better grasp of the use of verbs and troublesome words, and used fewer non-standard expressions. In the application of this knowledge to their writing, they made far fewer substitutions and additions of wrong words, syllables or letters; they were less inclined to omitting these, and they had a better knowledge of the use of written symbols. This was apparent to both teachers after the first written work had been appraised. Of the four classes, selected at random, students in the II and VII hour classes, designated the Control Group for external reasons, were better writers, in general, than those in the IV and VI hour Experimental classes.

This table (Table 10) also shows that all sections improved and that the Experimental Group made greater gains. By subtracting the initial and final means, and then subtracting the Control Group difference from the Experimental Group difference, we find that on the Usage Test the difference in the means was 4.67 and on the Composition the difference was 1.99, both in favor of the Experimental Group.

Thus, more improvement in knowledge of usage was shown than in application. This is consistent with the effect of most types of teaching. Application follows the acquisition of knowledge, which often takes a little time to germinate.

By far, the greatest weakness shown in the writing was not in the transference of speech forms, but in the writing symbols. Since attention had been called to using correct speech forms, and the students had talked extemporaneously on the subject, thereby having a chance to organize speech forms before writing, the lower numbers of errors both initially and finally in the other classifications in relation to purely written symbols, especially in the Experimental Group, may indicate that the "newly emerging speech patterns (did) have an . . . effect on academic achievement in written work."

Results of Oral Tests by Categories

Similar conclusions can be drawn from the means for the separate classifications used in evaluating the oral tests as shown in Table 11. Here, again, a look at the totals shows that on extemporaneous speaking the Control Group was more proficient at the outset as indicated by a lower total initial score (10.41 as compared to 12.80). The Control Group, however, made no gain in total score (10.41 - 10.40), whereas the difference in means showing improvement was 3.83 for the Experimental Group.

In the final talks, students in all classes tended to be more fluent, and there was, thus, an equal chance for all classes to make more errors. In the first round of these talks, some students in all classes did not speak to the last second of the one minute upon which the evaluation was based, and some spoke more haltingly, leaving less chance for error because of pauses. In the final round, all classes showed improvement in organization, in confidence, in audience contact, and in fluency, which would increase the average rate of words per minute. The raw scores were based on language alone with the means shown in this table.

Greater fluency would account for the greater number of substitutions and additions made by the Control Group in their final Extempore Speeches (.56) and in the final Business Interviews by the Experimental Group in Verbs and Structural Deviations (.02), and by the Control Group in Omissions (.14).

Results of Attitude Inventory by Categories

The final instrument analyzed was the Attitude Inventory, or "Questionnaire for Participants in Central High School's English Language Laboratory," (Appendix B, pages 160-61). As stated in Chapter III, the scoring was based on seven pertinent items from this instrument. Table 12 shows the means from this survey. Although a score of 2 for each question was considered to be perfect to make a total altogether of 14 points, a low score on item (3) might seem to be more modest and more acceptable. Since most of the scores shown on Table 12 are well above 1, and some of the individual scores were -2, -1, or 0, the means indicate a generally favorable attitude shown by all classes, which precluded the likelihood of the Attitude Inventory's showing any significant interrelationships among the factors tested.

Both teachers felt that the general attitude and rapport were very good. There was little difference in the cooperative spirit of Experimental and Control classes because the whole class procedure seemed new and different to both groups. It was just as novel for the Control classes to sit by themselves in booths to read from scripts while one group of classmates sat in rows to read and another group sat in a circle working with the teacher as it was for the Experimental classes. The only real difference was that the Experimental classes put on earphones and listened to the lessons when it was their turn to go to the booths.

The timing factor could have worked against good results on the Attitude Inventory. The initial writing came at the low point of orientation to the special procedure. Some students do not adjust to new routine easily, but may be happier with it after they see that the procedure runs smoothly and that their classmates are happily adjusted. The final writing came during the period near the end of the semester when the students felt the pressure of completing all written work and getting their composition booklets in shape to present to the class. The time of realization that procrastination must end is not the time when class attitude is generally at its best. This Attitude Inventory happened to be scheduled for presentation in these two low points of the semester. Even so, the scores showed an improvement in attitude at the end of the semester over that at the beginning, and higher attitude scores for the Experimental Group than for the Control Group. The difference, however, was not scientifically significant.

The comparison of the means of the total attitude scores, with 14 as the highest possible, reveals them to be 9.11 and 11.55 for the Experimental Group as opposed to 8.36 (initial) and 11.00 (final) for the Control Group. When the means are divided by 14 to be converted to percentages, we find that the Experimental Group had a beginning attitude of 65.6% which rose to 82.5%, and that the Control Group started at 59.6% and ended with 78.5%. Since these beginning attitude scores were well above 50%, and the final scores were in the upper quartile, we may conclude that the attitude of both groups was good and that of the Experimental Group the better. As stated above, no significance in the relationship of attitude to other factors was shown by the analysis of covariance tests.

Summary of Significance of Factors

Since the primary aim of this experiment was to test whether or not instructional tapes, and this series of instructional tapes in particular, would help high school students to change regional speech patterns, and since the speech tests showed high significance on a scientific basis, we can conclude that the experiment was successful.

In changing speech habits, according to this study, the most significant factor is Group, meaning the instructional auditory learning through tapes. This auditory instruction was significant in contrast to the visual learning at the .01 level and showed more significance when combined with other factors than did any other single variable. The second most pertinent factor is education, also significant by itself at the .01 level. The third most significant factor is Sex, showing significance by itself at the .05 level. The fourth most significant variable is Teacher-Time, and the fifth is Mental Abilities, neither of the latter two showing significance when partialled out alone.

Table 8, which presents "Means of Factors in Extempore Speech," shows that for the extempore talk the tape teaching in the Experimental Group was more than two and one-half times as effective as the reading in the Control Group (comparing the differences, 3.83 and 1.42 gained by subtracting the means for the final and the initial scores). The same procedure used in preparing this table reveals that girls improved more than boys, that students whose parents (one or both) had had some college education did considerably better than those who had less education, that the morning classes were more than twice as effective in bringing about improvement as were afternoon classes, and that those with low mental ability did a little better than those with relatively high mental ability, but that both of the latter did considerably better than did those with relatively average mental ability.

To draw a more exact picture, we could say that the student with the greatest potential for changing speech patterns is a girl, other than average in mental ability, whose parents (one or both) have had some college education, who has a morning class in which the instruction includes lessons on tape.

From the results of this experiment, the author concludes that tape-teaching is a sound teaching technique and that this series of English language lessons on tape did help these students to change Regional speech patterns. Furthermore, the author concludes that since the experiment provides proof of the educational value of these tapes and the extent to which they brought about oral language improvement, the tapes should be put to immediate use.

Implications for Further Study

There are many phases of this study which invite further experimentation. Many facets of the need for changing speech patterns should be explored. We do not know the extent to which negative judgments of speech may be harmful to the individual being judged, nor the extent to which positive judgments may contribute to one's welfare. As suggested in Chapter I, separate studies would be needed to determine the extent to which inadequacy of speech may contribute to poor achievement in school, which, in turn, may contribute to the drop-out problem and to other social problems such as unemployment and crime. Any statements regarding such interactions can at best be just broad generalities at present. Follow-up studies are in order to determine the effects of speech improvement, or the effects of the lack of speech training, in relation to later achievement.

Other causes for unacceptable usage of one's native tongue at the high school level should be explored and the interrelationships among other factors tested. One factor which the author considered testing during this study could be labeled "Number of Schools." During the oral presentations, attention was drawn to the number of schools many of the students had attended, even those who had always lived within the city. Instead of the normal number of three (elementary, junior high, and senior high), it was not uncommon for a student to have attended seven or nine. An attempt was made to apply the numerical division based on those students who had attended (1) three or four schools, (2) five or six schools, and (3) seven or more. However, this factor was not distributed evenly among the four classes and would not fit the grid in conjunction with other factors. Had the population from which the factorial grid was composed been a little larger, this factor might have been tested.

Linguistic studies should be increased in an effort to ascertain just what is "standard" in this living, changing language and how best to present it on tape. Emphasis in these studies should be on how to encourage vivid, colorful language that is clear, appropriate, and pleasing. We must teach tolerance of differences, especially of those differences that are structurally acceptable and clearly enunciated; and because, basically, language should unite rather than divide, we should search for basic agreement in the uses of the form classes and structure words. Linguistic studies to this end should be encouraged.

Every phase of use of recorded English lessons on tape for improving speech should be developed and tested. Questions to be answered include: How much explanation of structure is needed for the high school student? How much pure drill can be given advantageously? How much writing should be included in the taped lessons? What other attention-holding devices can be employed? How friendly, warm, and personal should the lessons be? How much does this factor depend upon the intellectual and cultural level of the students for whom they are intended? At what level should the lessons be purely factual and impersonal? What is the best timing for taped lessons, both in regard to the amount and the arrangement of time that the student has for listening? How effective is repetition of the same lesson? Which types of English usage can best be taught by tape? Which techniques of tape-teaching are most effective for the various types of usage being taught?

Much can still be learned about these related phases of tape-teaching. Much could also be learned through the replication of this experiment under different conditions. A comparison should be made between these results, obtained with one portable recorder, and the effects of the use of the same tapes in a well-serviced, stationary classroom laboratory. The effectiveness of the tapes should also be tested when used in a fully-equipped language laboratory as extra practice lessons in addition to regular class work.

Final Comment

This experiment, in which instructional tapes were used within an English classroom with one portable recorder and twelve earphone stations, has been gratifying. The by-product, a series of fourteen English lessons on tape, is available for use elsewhere. The experiment at Central High School, Detroit, has provided proof that there is merit in teaching English by tape and that these instructional tapes are an effective method for helping students to change Regional speech patterns.

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APPENDIX A

TESTS OF SIGNIFICANCE OF INTERACTIONS

MASTER DATA SHEETS

FORMULAS USED IN COMPUTATION

APPENDIX A

TABLE 13

TEST OF SIGNIFICANCE OF INTERACTIONS FOR BUSINESS INTERVIEW

Variables	D.F.	Σx^2	Σx^2	Σxy	D.F.	Adjusted Σy^2	Adjusted Mean Square	F-Ratio
GxSxExTxM	4	34	49	17	3	40.636	13.545	
GxSxExT	2	6	2.5	3	2	.96	.482	---
GxSxE xM	4	12	19	10	4	11.632	2.908	---
GxS xTxM	2	11	10	10	2	2.373	1.186	---
G xExTxM	4	11	30	8	4	25.351	6.337	---
SxExTxM	4	50	4	11	4	2.743	.685	---
GxSxE	2	15	28	-20	2	36.796	18.398	1.358
GxS xT	1	22	42	30	1	10.555	10.555	---
GxS xM	2	45	16	5	2	18.865	9.432	---
G xExT	2	7	02	3	2	.809	.404	---
G xE xM	4	65	41	11	4	41.915	10.478	---
G xTxM	2	21	45	9.8	2	.025	.012	---
SxExT	2	44	7	5	2	9.648	4.824	---
SxE xM	4	18	20	5	4	19.061	4.765	---
S xTxM	2	25	44	33	2	9.913	4.956	---
ExTxM	4	58	47	93	4	48.479	12.119	---
GxS	1	2	.1	.5	1	.111	.111	---
G xE	2	10	12	10	2	3.287	1.643	---
G xT	1	18	8	-12	1	16.698	16.698	1.232
G xM	2	17	7	-10	2	15.327	7.663	---
SxE	2	73	5	17	2	2.102	1.051	---
S xT	1	3	.6	-1	1	2.789	2.789	---
S xM	2	15	10	12	2	1.292	.646	---

TABLE 13

(Continued)

TEST OF SIGNIFICANCE OF INTERACTIONS FOR BUSINESS INTERVIEW

Variables	D.F.	Σx^2	Σx^2	Σxy	D.F.	Adjusted Σy^2	Adjusted Mean Square	F-Ratio
ExT	2	73	65	66	2	9.841	4.920	---
E xM	4	14	42	68	4	10.957	2.739	---
G xTxM	2	5	16	9	2	7.552	3.776	---
G	1	.8	171	12	1	155.221	155.221	11.459
S	1	8	.1	1	1	.877	.877	---
E	2	110	24	46	2	4.823	2.411	---
T	1	22	82	42	1	27.809	27.809	2.053
M	2	8	8	-2	2	12.332	6.166	---

VARIABLES

G - Groups, S - Sex, E - Education of Parents,
T - Teacher-Time, M - Mental Abilities

TABLE 14

TEST OF SIGNIFICANCE OF INTERACTIONS FOR WRITTEN USAGE TEST

Variables	D.F.	Σx^2	Σy^2	Σxy	D.F.	Adjusted Σy^2	Adjusted Mean Square	F-Ratio
GxSxExTxM	4	280	337	192	3	205.106	68.369	
GxSxExT	2	363	53	131	2	23.305	11.652	---
GxSxE xM	4	616	395	423	4	104.259	26.065	---
GxS xTxM	2	380	134	224	2	3.196	1.598	---
G xExTxM	4	278	300	282	4	27.896	6.974	---
SxExTxM	4	523	381	332	4	171.295	42.824	---
GxSxE	2	384	300	333	2	16.079	8.039	---
GxS xT	1	200	159	178	1	4.809	4.809	---
GxS xM	2	377	55	-70	2	165.692	82.846	1.212
G xExT	2	137	176	155	2	18.318	9.159	---
G xE xM	4	288	56	-11	4	124.775	31.193	---
G xTxM	2	79	101	87	2	15.639	7.820	---
SxExT	2	98	103	64	2	62.786	31.393	---
SxE xM	4	491	209	256	4	80.495	20.124	---
S xTxM	2	119	126	81	2	70.093	35.046	---
ExTxM	4	183	603	10	4	103.900	25.975	---
GxS	1	.8	1	1	1	.160	.160	---
G xE	2	183	300	206	2	89.567	44.783	---
G xT	1	102	528	232	1	187.317	187.317	2.739
G xM	2	101	159	35	2	155.326	77.663	1.136

TABLE 14

(Continued)

TEST OF SIGNIFICANCE OF INTERACTIONS FOR WRITTEN USAGE TEST

Variables	D.F.	Σx^2	Σy^2	Σxy	D.F.	Adjusted Σy^2	Adjusted Mean Square	F-Ratio
SxE	2	154	385	240	2	85.641	42.820	---
S xT	1	.8	.02	.1	1	.289	.289	---
S xM	2	351	176	197	2	68.637	34.318	---
ExT	2	496	301	373	2	21.296	10.648	---
E xM	4	739	212	201	4	192.609	48.152	---
TxM	2	141	165	152	2	14.533	7.266	---
G	1	1	435	24	1	399.419	399.419	5.842
S	1	338	369	358	1	19.440	19.440	---
E	2	284	295	283	2	25.648	12.824	---
T	1	760	55	204	1	35.997	35.997	---
M	2	4370	3333	3799	2	37.897	18.948	---
		12768	9668	8479				

VARIABLES

G - Groups, S - Sex, E - Education of Parents
T - Teacher-Time, M - Mental Abilities

TABLE 15

TEST OF SIGNIFICANCE OF INTERACTION FOR WRITTEN COMPOSITION

Variables	D.F.	Σx^2	Σy^2	Σxy	D.F.	Adjusted Σy^2	Adjusted Mean Square	F-Ratio
GxSxExTxM	4	44	149	34	3	122.136	40.712	
GxSxExT	2	67	36	49	2	1.030	.515	---
GxSxE xM	4	59	48	10	4	55.770	13.942	---
GxS xTxM	2	67	27	-23	2	53.380	26.690	---
G xExTxM	4	14	40	5	4	39.755	9.938	---
SxExTxM	4	166	48	53	4	38.446	9.611	---
GxSxE	2	27	17	-8	2	35.232	17.616	---
GxS xT	1	.2	10	-1	1	12.524	12.524	---
GxS xM	2	55	15	29	2	1.492	.746	---
G xExT	2	84	11	15	2	19.269	9.634	---
G xE xM	4	31	71	20	4	59.569	14.892	---
G xTxM	2	45	25	32	2	2.326	1.163	---
SxExT	2	52	16	29	2	1.116	.558	---
SxE xM	4	32	77	26	4	56.363	14.090	---
S xTxM	2	185	44	57	2	34.880	17.440	---
ExTxM	4	164	45	73	4	16.527	4.131	---
GxS	1	5	33	13	1	13.854	13.854	---
G xE	2	99	5	10	2	18.131	9.065	---
G xT	1	304	45	177	1	5.976	5.976	---
G xM	2	20	30	7	2	30.100	15.050	---

TABLE 15

(Continued)

TEST OF SIGNIFICANCE OF INTERACTION FOR WRITTEN COMPOSITION

Variables	D.F.	Σx^2	Σy^2	Σxy	D.F.	Adjusted Σy^2	Adjusted Mean Square	F-Ratio
SxE	2	53	4	11	2	9.919	4.959	---
S xT	1	2	42	9	1	27.755	27.755	---
S xM	2	32	82	12	2	81.307	40.653	---
ExT	2	37	54	25	2	36.156	18.078	---
E xM	4	124	66	76	4	19.789	4.947	---
TxM	2	144	47	78	2	7.021	3.510	---
G	1	56	3	-13	1	25.613	25.613	---
S	1	64	115	85	1	8.352	8.352	---
E	3	28	2	6	3	5.294	2.647	---
T	1	242	100	155	1	.660	.660	---
M	2	345	152	228	2	2.221	1.110	---

VARIABLES

G - Groups, S - Sex, E - Education of Parents
T - Teacher-Time, M - Mental Abilities

TABLE 16

TEST OF SIGNIFICANCE OF INTERACTION FOR ATTITUDE INVENTORY

Variables	D.F.	Σx^2	Σy^2	Σxy	D.F.	Adjusted Σy^2	Adjusted Mean Square	F-Ratio
GxSxExTxM	4	128	16	13	3	14.989	4.996	
GxSxExT	2	29	28	4	2	27.885	13.942	2.790
GxSxE xM	4	41	10	12	4	8.246	2.615	---
GxS xTxM	2	21	30	23	2	22.274	11.137	2.229
G xExTxM	4	39	33	12	4	31.285	7.821	1.565
SxExTxM	4	26	7	5	4	6.463	1.615	---
GxSxE	2	17	1	-4	2	2.136	1.068	---
GxS xT	1	48	2	10	1	.358	.358	---
GxS xM	2	49	11	2	2	11.268	5.634	1.127
G xExT	2	21	6	-10	2	7.153	3.576	---
G xE xM	4	126	53	19	4	50.976	12.744	2.550
G xTxM	2	8	4	5	2	3.537	1.768	---
SxExT	2	.1	22	.8	2	22.408	11.204	2.242
SxE xM	4	46	12	18	4	8.714	2.178	---
S xTxM	2	5	16	-2	2	17.056	8.528	1.707
ExTxM	4	70	101	77	4	62.130	15.532	3.108
GxS	1	7	5	-6	1	6.564	6.564	1.314
G xE	2	9	11	-10	2	12.467	6.234	1.248
G xT	1	48	10	22	1	4.864	4.864	---
G xM	2	20	38	-27	2	38.729	19.364	3.875
SxE	2	44	48	21	2	42.602	21.301	4.264

TABLE 16

(Continued)

TEST OF SIGNIFICANCE OF INTERACTION FOR ATTITUDE INVENTORY

Variables	D.F.	Σx^2	Σy^2	Σxy	D.F.	Adjusted Σy^2	Adjusted Mean Square	F-Ratio
S xT	1	34	0	0	1	.004	.004	---
S xM	2	20	1	-1	2	1.445	.772	---
ExT	2	6	32	4	2	31.606	15.803	3.163
E xM	4	28	32	-15	4	34.208	8.552	1.712
TxM	2	9	15	-3	2	15.757	7.978	1.597
G	1	10	5	7	1	3.824	3.824	---
S	1	.6	4	2	1	3.227	3.227	---
E	2	25	18	-3	2	18.566	9.283	1.858
T	1	2	.2	.7	1	.097	.097	---
M	2	43	22	-22	2	23.547	11.773	2.356

VARIABLES

G - Groups, S - Sex, E - Education of Parents
T - Teacher-Time, M - Mental Abilities

TABLE 17 - MASTER DATA SHEETS

SCORES FOR ALL TESTS
(Totals)
Experimental Group

Subject Number					Written Usage Test		Written Composition		Oral Extempore		Oral Bus. Interview		Attitude Survey	
					(No.Correct)		(No. of Errors or Deviations)						(No.Positive)	
G	S	E	T	M	In.	Fin.	In.	Fin.	In.	Fin.	In.	Fin.	In.	Fin.
1	1	1	1	1	66	85	24	1	7	8	8	5	14	10
1	1	2	1	1	77	82	11	3	7	10	9	1	8	10
1	1	3	1	1	65	70	15	9	12	6	7	4	6	7
1	2	1	1	1	65	71	7	5	11	14	12	6	12	9
1	2	2	1	1	60	71	9	7	8	7	4	8	10	10
1	2	3	1	1	80	89	10	3	18	13	12	8	2	6
1	1	1	2	1	75	76	9	2	24	14	17	10	9	10
1	1	2	2	1	82	100	5	4	11	6	11	8	11	14
1	1	3	2	1	87	93	11	2	20	12	14	11	11	14
1	2	1	2	1	67	80	12	7	9	7	10	5	11	5
1	2	2	2	1	91	101	6	0	19	7	3	3	14	11
1	2	3	2	1	82	85	10	3	14	7	11	8	13	13
1	1	1	1	2	47	54	10	7	9	9	8	5	11	11
1	1	2	1	2	60	72	8	2	20	12	14	5	10	14
1	1	3	1	2	46	74	25	18	9	9	10	7	11	14
1	2	1	1	2	79	85	24	1	11	9	9	3	6	7
1	2	2	1	2	42	60	22	10	15	13	13	8	8	13
1	2	3	1	2	59	72	26	10	18	8	12	7	8	14
1	1	1	2	2	62	77	16	3	8	5	10	5	14	14
1	1	2	2	2	81	88	11	0	8	8	19	8	7	7

TABLE 17 - MASTER DATA SHEETS

SCORES FOR ALL TESTS
(Totals)
Experimental Group
(continued)

Subject Number					Written Usage Test		Written Composition		Oral Extempore		Oral Bus. Interview		Attitude Survey	
					(No.Correct)		(No. of Errors or Deviations)						(No.Positive)	
G	S	E	T	M	In.	Fin.	In.	Fin.	In.	Fin.	In.	Fin.	In.	Fin.
1	1	3	2	2	39	72	9	6	6	5	7	3	7	12
1	2	1	2	2	78	77	9	6	4	8	11	6	12	14
1	2	2	2	2	72	77	5	2	16	10	16	8	14	6
1	2	3	2	2	78	90	9	4	8	5	5	3	10	14
1	1	1	1	3	43	65	22	11	21	9	6	4	12	14
1	1	2	1	3	38	57	25	23	21	13	12	6	0	14
1	1	3	1	3	66	64	20	08	17	11	3	4	7	12
1	2	1	1	3	67	82	27	11	16	11	10	4	0	8
1	2	2	1	3	62	78	9	2	15	7	6	3	7	13
1	2	3	1	3	59	80	12	2	18	12	10	6	14	14
1	1	1	2	3	64	73	9	7	6	10	12	7	3	14
1	1	2	2	3	61	65	8	1	22	13	15	11	8	14
1	1	3	2	3	65	70	10	1	9	5	5	3	11	12
1	2	1	2	3	35	55	9	5	8	8	14	5	5	14
1	2	2	2	3	59	78	9	5	7	9	13	14	9	14
1	2	3	2	3	63	83	9	4	9	3	10	2	13	14
Total					2322	2751	472	195	461	323	368	214	328	416
Mean					64.50	76.41	13.11	5.41	12.80	8.97	10.22	5.99	9.11	11.55

TABLE 18 - MASTER DATA SHEETS

SCORES FOR ALL TESTS
(Totals)
Control Group

Subject Number					Written Usage Test		Written Composition		Oral Extempore		Oral Bus. Interview		Attitude Survey	
					(No.Correct)		(No. of Errors or Deviations)						(No.Positive)	
G	S	E	T	M	In.	Fin.	In.	Fin.	In.	Fin.	In.	Fin.	In.	Fin.
2	1	1	1	1	82	92	6	7	14	11	10	9	11	13
2	1	2	1	1	71	82	13	5	8	13	11	7	5	14
2	1	3	1	1	76	85	3	2	7	9	4	6	10	6
2	2	1	1	1	55	76	10	4	2	6	9	9	9	10
2	2	2	1	1	72	79	3	2	5	5	7	4	7	13
2	2	3	1	1	76	94	2	2	15	11	15	8	10	12
2	1	1	2	1	82	85	8	1	25	16	13	10	3	6
2	1	2	2	1	70	66	5	1	9	20	6	11	7	10
2	1	3	2	1	71	74	12	4	8	10	11	12	12	14
2	2	1	2	1	75	78	14	5	9	6	11	11	9	9
2	2	2	2	1	80	92	8	4	12	12	14	16	6	14
2	2	3	2	1	78	87	6	3	17	9	8	7	7	14
2	1	1	1	2	70	76	4	6	14	11	17	9	5	10
2	1	2	1	2	51	60	18	15	15	9	12	16	6	14
2	1	3	1	2	60	66	15	6	7	12	10	10	8	7
2	2	1	1	2	68	71	9	3	10	7	10	7	7	10
2	2	2	1	2	56	74	10	5	8	6	4	4	14	14
2	2	3	1	2	68	76	13	7	11	9	7	6	14	14
2	1	1	2	2	66	70	18	20	15	11	11	7	13	13
2	1	2	2	2	59	61	15	6	13	20	16	14	5	11
2	1	3	2	2	75	73	18	12	2	4	6	9	12	13
2	2	1	2	2	64	62	11	3	10	16	12	13	4	4

TABLE 18 - MASTER DATA SHEETS

SCORES FOR ALL TESTS
(Totals)
Control Group
(continued)

Subject Number					Written Usage Test		Written Composition		Oral Extempore		Oral Bus. Interview		Attitude Survey	
					(No.Correct)		(No. of Errors or Deviations)						(No.Positive)	
G	S	E	T	M	In.	Fin.	In.	Fin.	In.	Fin.	In.	Fin.	In.	Fin.
2	2	2	2	2	73	72	10	7	8	15	13	10	10	14
2	2	3	2	2	67	73	17	6	7	10	5	11	12	7
2	1	1	1	3	46	67	15	11	11	10	10	9	6	14
2	1	2	1	3	31	51	28	14	10	10	15	4	14	14
2	1	3	1	3	68	73	11	11	10	9	12	7	13	8
2	2	1	1	3	43	61	15	4	22	12	14	8	12	9
2	2	2	1	3	54	55	13	4	11	10	9	5	6	9
2	2	3	1	3	72	82	12	4	13	10	11	9	5	13
2	1	1	2	3	46	64	8	5	11	9	15	9	14	13
2	1	2	2	3	51	50	10	6	9	9	14	12	6	9
2	1	3	2	3	40	49	19	8	5	7	4	3	8	8
2	2	1	2	3	63	68	8	4	7	15	10	15	3	14
2	2	2	2	3	61	61	11	2	12	9	13	10	3	8
2	2	3	2	3	72	69	10	1	3	8	7	8	5	11
Total					2312	2574	408	210	375	376	376	325	301	396
Mean					64.22	71.50	11.33	5.83	10.41	10.44	10.44	9.02	8.36	11.00

FIGURE 2

FORMULAS USED IN COMPUTATION OF PHASE 1 BY COMPUTER ANALYSIS

Raw Summations[1]

There are 32 different types of raw summations, each type computed for:

1) the x variable against itself (Σ_{xx});

2) the y variable against itself (Σ_{yy}); and

3) the x variable against the y variable (Σ_{xy}).

The formulas are shown for case (3).

The 5:0 summation is computed:

$$\overset{5:0}{\underset{xy}{\Sigma}} = \underset{G}{\overset{\Sigma}{F1}}\ \underset{S}{\overset{\Sigma}{F2}}\ \underset{E}{\overset{\Sigma}{F3}}\ \underset{T}{\overset{\Sigma}{F4}}\ \underset{M}{\overset{\Sigma}{F5}}\ (x \cdot y)$$

There is one 5:0 summation for xy (GSETM).

The 4:1 summations are computed: (Let abcde = GSETM)

$$\overset{4:1}{\underset{xy}{\Sigma}} = \sum_{a}\sum_{b}\sum_{c}\sum_{d}\left[\frac{(\sum_{e} x) \cdot (\sum_{e} y)}{N_e}\right]$$

There are 5 types of 4:1 summations. Each one is obtained by summing over one of the factors (e) while holding the others constant (a-d), multiplying the Σx and Σy so obtained to form a product, dividing this product by the number of values (N_e) the factor (e) may assume, and then summing the quotients over the other 4 factors (a-d). The factor on the inside of the brackets (e) may be said to be "partialled out."

---

[1] Adapted from Robert Peters, "Analysis of Covariance (5-way)," (Detroit: Wayne State University Computing Center, 1962), pp. 8-12.

FIGURE 2 (Continued)

FORMULAS USED IN COMPUTATION OF PHASE 1

The 3:2 summations are computed:

$$\Sigma_{xy}^{3:2} = \sum_a \sum_b \sum_c \left[\frac{(\sum_d \sum_e x) \cdot (\sum_d \sum_e y)}{N_d \cdot N_e} \right]$$

There are ten different $\binom{5}{2}$ 3:2 summations. Each one is formed by replacing (d,e) by one of the combinations of 2 out of the 5 factors. The 3 remaining factors then become (a,b,c).

There are ten 2:3 summations. The general formula is:

$$\Sigma_{xy}^{2:3} = \sum_a \sum_b \left[\frac{(\sum_c \sum_d \sum_e x) \cdot (\sum_c \sum_d \sum_e y)}{N_c \cdot N_d \cdot N_e} \right]$$

There are five 1:4 summations:

$$\Sigma_{xy}^{1:4} = \sum_a \left[\frac{(\sum_b \sum_c \sum_d \sum_e x) \cdot (\sum_b \sum_c \sum_d \sum_e y)}{N_b \cdot N_c \cdot N_d \cdot N_e} \right]$$

There is one 0:5 summation:

$$\Sigma_{xy}^{0:5} = \left[\frac{(\sum_{F1} \sum_{F2} \sum_{F3} \sum_{F4} \sum_{F5} x) \cdot (\sum_{F1} \sum_{F2} \sum_{F3} \sum_{F4} \sum_{F5} y)}{(\text{ Grid Size }) \atop 72} \right]$$

FIGURE 3

FORMULAS USED IN COMPUTATION OF PHASE 2

The 5-way interaction (highest order interaction) is computed:

$$I_{xy}^{5} = \Sigma_{xy}^{5:0} - \sum^{5} \Sigma_{xy}^{4:1} + \sum^{10} \Sigma_{xy}^{3:2} - \sum^{10} \Sigma_{xy}^{2:3} + \sum^{5} \Sigma_{xy}^{1:4} - \Sigma_{xy}^{0:5}$$

Thus, each of the 32 Σ_{xy} sums computed by Phase 1 is used.

The 4-way interactions are computed:

$$I_{xy}^{4} = \Sigma_{xy}^{4:1} - \sum^{4} \Sigma_{xy}^{3:2} + \sum^{6} \Sigma_{xy}^{2:3} - \sum^{4} \Sigma_{xy}^{1:4} + \Sigma_{xy}^{0:5}$$

There are five $\binom{5}{4}$ different 4-way interactions. The 4-way interaction for factors a b c d uses for $\Sigma_{xy}^{4:1}$, the raw summation on variables a b c d (the raw summation with variable e partialled out). The four $\Sigma_{xy}^{3:2}$ sums are those for each of the $\binom{4}{3}$ combinations containing any 3 factors of the 4 factors a b c d. The use of six $\Sigma_{xy}^{2:3}$ terms, and four $\Sigma_{xy}^{1:4}$ terms is analogous to that of the $\Sigma_{xy}^{3:2}$ choice.

The 3-way interactions are computed:

$$I_{xy}^{3} = \Sigma_{xy}^{3:2} - \sum^{3} \Sigma_{xy}^{2:3} + \sum^{3} \Sigma_{xy}^{1:4} - \Sigma_{xy}^{0:5}$$

The 2-way interactions are computed:

$$I_{xy}^{2} = \Sigma_{xy}^{2:3} - \sum^{2} \Sigma_{xy}^{1:4} + \Sigma_{xy}^{0:5}$$

FIGURE 3 (Continued)

FORMULAS USED IN COMPUTATION OF PHASE 2

The factor variances (one-way) are computed:

$$I^{1}_{xy} = \Sigma^{1:4}_{xy} - \Sigma^{0:5}_{xy}$$

Total variance is computed:

$$I^{0}_{xy} = \Sigma^{5:0}_{xy} - \Sigma^{0:5}_{xy}$$

FIGURE 4

FORMULAS USED IN COMPUTATION OF PHASE 3

Highest order interaction (5-way):

$$\omega_5 = I^5_{yy} - \left[\frac{(I^5_{xy})^2}{I^5_{xx}}\right]$$

$$\mu_5 = \frac{\omega}{df-1}$$

ω = reduced Σy^2

μ = mean square

df = degrees of freedom calculated by phase 2

Other Interactions

$$\omega_j = I^5_{yy} + I^j_{yy} - \frac{(I^5_{xy} + I^j_{xy})^2}{I^5_{xx} + I^j_{xx}} - \omega_5$$

$$\mu_j = \frac{\omega}{df-1} \quad \text{for } j = 1 \ldots 4$$

APPENDIX B

CLASS MATERIALS

Course Content

Form for Letter to Parents

Unit Topics for Compositions

Reading Forms for Mirrors and Best Television Plays

"Twenty Questions, a Language Game Autobiography"

DATA GATHERING MATERIALS AND INSTRUMENTS

Evaluation Form for Tapes

Form for General Information Related to Language Background

English Usage Test

Questionnaire for Participants (The Attitude Inventory)

Application Form for Part-Time Work (Used with Business Interview)

ENGLISH LANGUAGE LABORATORY

COURSE CONTENT
SECOND SEMESTER TENTH GRADE

The tenth grade English Language Laboratory course will attempt to integrate all of the language arts and skills. Specifically, it will include the following:

I. Reading encouragement and developmental reading improvement through the use of a classroom reading kit and through stimulating outside reading. (Scholastic Magazines' Thematic Unit Mirrors)

II. A minimum of twenty written or oral compositions.

Written compositions (at least 10) will include: a friendly letter, a letter of application, a biography, an autobiographical account, a personality appraisal, a written book report, a project outline or sketch, and at least four related compositions on a choice of subjects - bound in a booklet. (All rewritten after corrections.)

Oral compositions will include two extempore three-minute talks on personal experience, one book talk, one presentation of the project booklet, four brief impromptu presentations, and two business interviews.

III. A minimum of eight dictated spelling lessons, including the list in The 3 Book, Communication Skills.

IV. The use of the tape recorder as a device for self-improvement.

V. Oral grammar drills in individual repeating booths.

VI. Written grammar reinforcement exercises from the P. S. No. 2 Language Skills Workbook (Scholastic Magazines), and other class materials.

VII. Guidance in all phases of the language arts and skills on an individual basis. (Special individual learning two days a week.)

VIII. Group experience with the entire class two days a week, and with a small group one day a week.

Fee: A laboratory fee of $1.00 will cover all materials with the exception of a pen, pencils, and extra composition paper. Students will not be required to purchase a composition textbook, but may be requested to bring in their previously purchased literature anthology. Paperbacked books are provided and are offered for sale, but library books are welcome substitutes.

Dear

This semester our composition class

I am enclosing a copy of

.

Please sign the form below so that I may return my letter to receive credit for it.

……

Date ______________

Dear

I have received a copy of the Course Content for the English Language Laboratory class in which ______________ is enrolled.

Since learning is a many-sided process, I shall do my part in seeing that __________ does ___ homework so that ___ will improve in the use of the language arts and skills this semester.

Sincerely,

____
(Signature)

UNIT TOPICS FOR COMPOSITIONS TO BE BOUND TOGETHER IN A BOOKLET

Personal Topics

The "Mosts" - The Time I Was Most Afraid, Most Sad, Most Happy, Most Ashamed, Most Embarrassed, etc.

The "Firsts" - The First Birthday Party I Remember, My First Date, My First Picnic, My First Day in School, My First Plane Ride, My First High Heels, etc.

Favorites - My Favorite Movie Star, Season, Magazine, Writer, Subject, Spectator Sport, Food, etc.

Likes and Dislikes - Why I Like, or Why I Dislike: Poetry, Jazz, A Small Town, A Big City, Getting Up in the Morning, My Name, Going to Church, Michigan, Certain Types of People, Certain Foods, etc.

Autobiography - My Beginnings, The World I Found Myself In, My Earliest Recollections, Beginning School, Travel Experiences, Growing Up, Playmates, Houses We've Lived In, Changing Schools, Graduation, Teachers I Remember, After-School Hours, Close Friends, What I Think About High School, Confused, Lonesome, Homesick, A Day I Would Like to Forget, An Important Decision, An Unusual Incident, A Tense Moment, I Was a Hero, My Conscience, What's Next? etc.

How I --- - Would Invest \$1,000, Treat Nosey People, Judge Character, Suffer, Am Influenced by Advertising, Study, Classify People, Would Change ---, Want to ---, Would Teach ---, etc.

Why I --- - Do Not Believe in Divorce, Want to Be a ---, Believe in Immortality, Prefer ---, Go to ---, Joined ---, etc.

What I --- - Think About ---, Want from Life, Have Gained From ---, Would Do If ---, Would Do About ---, etc.

General Topics

(For these, use several different types of writing such as: a personal essay, a short story, a short short-story, a broadcast, a poem, a sketch, a dramatic skit, a description, an explanation, a letter, a news story, a feature article, or a diary.)

Sports
Space
Science
Animals
People
Hobbies
Music

Countries
Cities
Decisions
Religion
Friends
School
Family

Processes
Farming
Manufacturing
Manners
Courage
Habits
Inventions

The Arts and Entertainment
Survival
Superstition
Seeing the Light Side
Happiness
Automation

BRIEF COMMENTS ON MIRRORS

Date Read

"The Secret Life of Walter Mitty" by James Thurber (p.1) ________

"Roland Aborowicz" by Edgar Lee Masters (p.8) ________

"I Can't Breathe" by Ring Lardner (p.9) ________

"The Roughneck" by Earl Reed Silvers (p.23) ________

"Tonight Will Be Different" by Rosemary Howland (p.39) ________

"There's Nothing Like Instinct, Fortunately" by Ogden Nash (p.46) ________

"Rah Rah Roger" by Mary Dirlam (p.48) ________

"The Date Catcher" by Frederick Laing (p.57) ________

"Reflection of Luanne" by Marjorie Holmes (p.63) ________

"The Pay-Off" by Peter Brackett (p.73) ________

"Sixteen" by Carolyn Calahan (p.87) ________

"All the Years of Her Life" by Morley Callaghan (p.88) ________

BRIEF COMMENTS ON OUTSIDE READING
(Continue on a separate sheet.)

Title	Author	Comment

BRIEF COMMENTS ON MIRRORS

(Second half)

Date Read

"Lucinda Matlock" by Edgar Lee Masters (p.97)

"Self-Reliance" by Ralph Waldo Emerson (p.98)

"Outwitted" by Edwin Markham (p.100)

"Too Young to Marry" by John D. MacDonald (p.101)

"The Slip-Over Sweater" by Jesse Stuart (p.109)

"Sixteen: Winter" by Jessamyn West (p.124)

"Prelude" by Lucile Vaughan Payne (p.134)

"Kaleidoscope" by Laura Cooper Rendina (p.157)

"A Mystery of Heroism" by Stephen Crane (p.170)

"What Adam Said" by Archibald MacLeish (p. 183)

BRIEF COMMENTS ON OUTSIDE READING

(Continue on a separate sheet.)

Title Author Comment

BEST TELEVISION PLAYS (Gore Vidal, ed.)

Title	Question	Subject	Page
"The Mother"	What was the mother's driving urge?	The Aged	1
"Thunder on Sycamore Street"	In a similar theme, who might Joe represent?	Persecution	33
"My Lost Saints"	How does this play show that "you can't turn back the clock"?	Family	69
"Man on the Mountaintop"	Why had Borden's father failed?	Genius	109
"A Young Lady of Property"	Why did the young lady love her property?	Growing Up	135
"The Strike"	What obvious good and evil would the strike accomplish?	Korean War	163
"The Rabbit Trap"	Describe the figurative rabbit trap.	Work	192
"Visit to a Small Planet"	What does the visitor say is wrong with our civilization?	Superman	221

Extra Question: The cover picture is a scene from which play?

TWENTY QUESTIONS, A LANGUAGE GAME

AUTOBIOGRAPHY

(Adapted from Don M. Wolfe's "A Grammatical Autobiography," The English Journal, Vol. XLIX, January, 1960.)

DIRECTIONS

For the first writing, number your answers in this sequence. Use part of the question, if you wish, to make necessary transitions and to clarify. Underline the structure called for and label it above if identification is requested. Indicate with the paragraph sign (¶) where each new paragraph should begin. After corrections, you will want to make a few adjustments and to recopy your writing without the numbers and labels to make it a smooth-reading autobiography.

1. Define the word son, daughter, friend, citizen, student, maturity, beauty, or personality in one sentence. Use a predicate noun. Open your sentence with the words "To me." Example: To me a son is a boy who tries to understand his father's struggles.

2. What three sounds do you like? Use three gerunds as objects of your verb. Example: I like the pattering of rain on my window, the crackling of a wood fire, the humming of a motor.

3. What is your full name? Use and underline a predicate noun. Use a comma and a conjunction to make it a compound sentence. Example: My full name is William Nathan Brown, but friends call me Bill.

4. What color are your eyes? Use a predicate adjective. Example: My eyes are hazel.

5. What color is your hair? Use a predicate adjective. Example: My hair is brown.

6. In what state were you born? Use and underline a prepositional phrase. Example: I was born in Alabama.

7. When were you born? Use and underline a prepositional phrase. Example: I was born on October 24, 1945. Change the beginning to avoid repetition.

8. Who is your closest friend in this room? Use a predicate noun. Example: My closest friend is Harry Roberts.

9. On what street do you live? Use and underline a prepositional phrase. Example: I live on Rogers Avenue.

10. What occupations do several of your family follow? Name four relatives and tell what occupation each follows. Use predicate nouns and underline them. Example: My uncle is a locomotive engineer.

11. What traveling have you done? Open with a prepositional phrase telling when. Label your verb. Example: In October 1958, I crossed the Mississippi River.

12. Write ten sentences that describe your personality. Begin each sentence with a prepositional phrase. Example: At school I am friendly.

13. What did you see when you first awakened this morning? Use the word saw with a noun object. Mark saw as a transitive or intransitive verb. Example: I saw the pink curtain.

14. What clothes did you put on this morning that you especially like? Use and label a transitive verb. Example: I put on my corduroy jacket.

15. What did you eat for breakfast this morning? Use three objects of a transitive verb, label it, and punctuate the series of nouns correctly. Underline and label each noun. Example: I ate oatmeal, toast, and butter.

16. What three colors did you see today? Answer with the transitive verb saw. Example: I saw the blue of the sky, the green of the grass on our front lawn, the black of the tar on the roadway.

17. Describe an action of yours that took place this morning. Open with a present participle. Example: Dashing out the front door, I raced to the bus stop.

18. What activity did you enjoy most as a child of ten or twelve? Use a gerund as the object of your verb. Example: I liked swimming in the Recreation pool.

19. Write a sentence about your use of money beginning with although. Example: Although I do not make money easily, I always spend it fast.

20. What are five ambitions you cherish? Use infinitive phrases to complete the thought. Example: My five ambitions are: to play ___, to win ___, to ask ___, to be admitted to ___, and to get ___.

DIRECTIONS

Now read your paper carefully to correct all errors in spelling and punctuation. Check it for proper capitalization. Decide which ideas group together, and where each new paragraph should begin. Mark these places with the paragraph sign (¶). Perhaps you can think of an additional sentence or two that you will add in the next writing to make this a finished autobiography that is worth keeping for future reference.

Name ______________ Check: Student ___ Teacher ___ Date ______________
(Optional)

Tape heard ____
(Identify by number or general content.)

EVALUATION

(Feel free to write your honest reactions and comments under the headings below.)

THE GENERAL CONCEPT: How do you feel about what you have learned so far In using the tapes? Can you gain language improvement by this method?

HE VOICES AND THE PRESENTATION: Were the voices clear and pleasing to ou? Were the directions given so that you could understand them? Was here enough time to respond or to do the written exercises?

HIS SPECIFIC LESSON: What do you feel you accomplished in listening o this particular tape? What suggestions, if any, do you have for mprovement?

GENERAL INFORMATION RELATED TO LANGUAGE BACKGROUND

Name____________________Course_________Hour___Teacher________

1. Name the school you last attended before this one. Give the city (or county) and state, if not in Detroit.________________

2. Give the city (or county) and state where you were born.______
____

3. Where did you start to start to school? Give the city (or county) and state.

4. Name one other state, if any, in which you ( ), your parents ( ), grandparents ( ), or great-grandparents ( ) have lived.__________ Put a check in the space that comes after the person or persons indicated that are closest to you.

5. With whom did you live during your first five years? Check one:
a)___ Both parents d)___ Father and stepmother g)___Grandparents
b)___ Mother alone e)___ Mother and stepfather h)___Guardians
c)___ Father alone f)___ Institution i)___Others

6. By whom were you reared during your first five years when your speech pattern was being formed?
a)___ Mother c)___Aunt e)___Some other person or
b)___ Grandmother d)___Sister persons

7. Check below on the closest side the highest school level completed by:

Your moter, or the person who reared you.	a)___	Grades 1 or 2	___(j	Your father, or the man closest to you during your first five years.
	b)___	Grades 3 or 4	___(k	
	c)___	Grades 5 or 6	___(l	
	d)___	Grades 7 or 8	___(m	
	e)___	Grades 9 or 10	___(n	
	f)___	Grades 11 or 12	___(o	
	g)___	1 or 2 years of college..	___(p	
	h)___	3 or 4 years of college..	___(q	
	i)___	5 or more years of college	__(r	

8. Give the occupation of your father or guardian, if living. Write Not Employed if that is the case.___________________

9. Give the occupation of your mother or guardian, if living. Write Not Employed if that is the case.___________________

10. Check the approximate number of books, other than school books, that you have in your home.
a)___ 0-9 c)___ 20-29 e)___40-49
b)___ 10-19 d)___ 30-39 f)___50 or more

11. Name any reading material brought regularly into your home for you to read if you wish.______________________________

12. How often do you and your family attend religious services? Check: Never(a)___ Once a year (b)___ Three or four times a year(c)___ Six or eight times a year(d)___ Once a month(e)___ Twice a month(f)___ Usually once a week(g)___ Usually twice a week(h)___ Usually more often than twice a week(i)___.

Detroit
Public
Schools

ENGLISH USAGE TEST
Grades 7-9 (Experimental Form 01)

Department of
Instructional
Research

Name____________________________

School___________________________

Teacher__________________________

Grade ________ L. R.___________

Date ________ Boy or Girl_____

Month ________ Day_____ Yr.___
Birthdate

PART		SCORE
I	Subject & Verb (Agreement)	
II	Pronouns	
III	Adjective, Adverb	
IV	Forms of Verbs	
V	Troublesome Words	
VI	Punctuation	
VII	Capitalization	
Total		
Percentile Rank		

DIRECTIONS: DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE TOLD TO DO SO. This is a test of your ability to use the English language correctly. It consists of seven parts which you are to work in order. If you finish one part of the test before time is called, go on to the next part. You may return to any part during the test.

On Parts 1 to 5 you will be asked to decide whether or not a sentence is correctly written. If the sentence is correct as it is written, place a **C** on the blank line. If it is incorrect, write the **corrected word** on the blank line to replace the underlined word. Study the samples below which are answered correctly.

SAMPLES

He looks sick.	C
She looks prettily.	pretty

Before you begin a new part, study the sample which is correctly answered. Special directions are given for Parts 6 and 7.

Devised by Helen J. Hanlon, Norman W. Bradow, Ethan E. Edloff, Elmer W. McDaid, Clara E. Oetjen, and Elmer F. Pflieger.

2-10-60

PART I
(Subject and Verb Agreement)

SAMPLE: You was there when John came. were

1. One of the boats were lost in the storm.
2. There are six loaves of bread in the box.
3. They have done their work.
4. Don't he want to come along?
5. The teacher with all her pupils were in the lunchroom.
6. Neither of the girls seem ready to go.
7. Pat and Tom was on the team.
8. All of the toys were picked up.
9. Each of the group leaders are to wear an arm band.
10. You was in our concert last year.
11. Several others in addition to Tom is going to the circus.
12. He or she is going to the corner store for us.
13. John or Harry carries the typewriter for the clerk.
14. Jane and Jean goes to the post office every day.

SCORE

PART II
(Pronouns)

SAMPLE: The driver said they should move faster. ____C____

1. Mary's dog followed Jane and her to the bus. ________
2. They tried to crowd we boys off the step. ________
3. I gave that to you and he. ________
4. He and I are reading the same book. ________
5. Please send they and me for the books. ________
6. The best spellers on the team are you and him. ________
7. Mother took John and me with her. ________
8. Between you and I we'll do this work. ________
9. Was it her who asked you the question? ________
10. Father gave Mary and her the money for the stamps. ________
11. We saved some of the candy for you and she. ________
12. Tom and me were the only boys skating on the pond today. ________
13. Mr. Jones and him are going to take the Boy Scout Troop on the hike. ________
14. It is I who has been coughing all morning. ________

SCORE ☐

PART III
(Adjective, Adverb)

SAMPLE: I didn't tell nobody. anybody

1. Jack plays a good game of golf. ______
2. Bill plays golf good. ______
3. I'm sure glad I came. ______
4. I cleaned these rooms well this morning. ______
5. The girls say the new hats look well. ______
6. The ending of the story seems really true. ______
7. The newsboy comes regular every day. ______
8. Will you buy me some paper for them notebooks? ______
9. Whose book are you going to use in class today? ______
10. The animal sheds it's fur in the spring. ______
11. Those kind of pencils I like best. ______
12. He never saw no deer on this whole trip. ______
13. That work was most completed when Mr. Smith left us. ______
14. If you become sickly again during the morning, come home at noon. ______

SCORE ☐

PART IV
(Forms of Verbs)

SAMPLE: I begun to work there last year. began

1. My pencil is broke. ______

2. John has wrote his own composition. ______

3. The wind had torn the flag. ______

4. The bell has rang. ______

5. Sam had thrown away his notes. ______

6. Mr. Jones strived to become the best golfer on the course. ______

7. To illustrate his talk John drawed a picture on the board. ______

8. The girls had climbed to the top of the hill. ______

9. James never knowed the answers when he was asked. ______

10. After riding for hours, I drank almost a quart of milk. ______

11. Have you ever sang with the school chorus? ______

12. How long since you have swum in the ocean? ______

13. The whole crowd bursted out laughing when the clowns came along. ______

14. Surely you have eaten since yesterday morning! ______

SCORE ☐

PART V
(Troublesome Words)

SAMPLE: We did all of the problems for the test. C

1. We seen a light in the attic window.

2. We did the washing already.

3. Leave me do the errand for you.

4. Would your father teach me how to use the saw?

5. Nobody can't get in the house now.

6. Did you ever lay in the sand?

7. You may stop at problem 10 if you like.

8. A boy at scout camp learned me how to do that trick.

9. We hanged the clothes for mother this morning.

10. When John come home from overseas, we met him at the depot.

11. If we intend to get there today, we had ought to get started.

12. He has ridden on the Mercury to Chicago.

13. Mother, please let me go to the circus tomorrow.

14. There was the money, laying just where I had left it.

SCORE

PART VI
(Punctuation)

DIRECTIONS: In this part of the test you are to write **C** for correct and **I** for incorrect. Study each punctuation mark over which a number appears. If it is correct, write the letter **C** in the space provided in the answer column. If it is not correct, write the letter **I**. If there is no punctuation mark, you are to decide if one is necessary. In some cases, more than one punctuation mark is required. Write **C** only if all necessary punctuation is correctly given. Be sure to write **C** for correct and **I** for incorrect. Be sure to have the number of your answer agree with the number of the item on which you are working.

a b
SAMPLE: Dick, and Tom are going to school.

1 2
John, Jim, and Harry met at Jims house this
3
morning to make final arrangements for their

trip to camp next week.
4
"Harry, do you think we ought to take along
5 6
our tennis racquets, asked Jim?
7 8 9
"No, I do'nt think so, Im not sure whether
10
they have a tennis court. Anyway, well be plenty
11 12 13
busy swimming boating and fishing" answered Harry.
14 15
"What do you say John?"
16 17
"Yes I agree with you. "We shouldn't take
18 19
along anything we won't need, for Dad's car is
20
going to be loaded, without any extra baggage."

SAMPLE

a I
b C

1 ________
2 ________
3 ________
4 ________
5 ________
6 ________
7 ________
8 ________
9 ________
10 ________
11 ________
12 ________
13 ________
14 ________
15 ________
16 ________
17 ________
18 ________
19 ________
20 ________

SCORE ☐

PART VII
(Usage)

DIRECTIONS: In the following sentences consider each word. If the sentence is correct as it is written, write the letter C on the blank line with the same number. If it is incorrect in any way, write the letter I.

Sample: a. Jane and Mary live in Detroit.
b. They hope her doing the day.

1. John put mines in his locker.
2. He was the onliest one there.

3. All the peoples applauded loudly.
4. They hurt themselves when they fell.

5. The grandparents taken the baby.
6. He run home as fast as he could.

7. The boy have a new pair of skates.
8. Is this his or mine, Uncle?

9. Beings she's not here, I'll start.
10. You two are coming, aren't you?

11. Her children are all growed up.
12. He carries her to church every Sunday.

13. Had I known, I could of gone.
14. Mary returned the pencil she had.

15. We all knows that isn't right.
16. I'm fixing to get ready to go.

17. What all they has to do?
18. They left like so many has done.

19. They were graduated in January.
20. My pen doesn't have black ink.

SAMPLE

a ___C___
b ___I___

1 ________
2 ________
3 ________
4 ________
5 ________
6 ________
7 ________
8 ________
9 ________
10________
11________
12________
13________
14________
15________
16________
17________
18________
19________
20________

QUESTIONNAIRE FOR PARTICIPANTS IN CENTRAL HIGH SCHOOL'S
ENGLISH LANGUAGE LABORATORY

In the statements or questions below, circle the word or words which most closely express your reactions.

1. Do you think it would be to your advantage to speak more clearly and effectively? Yes. No. Maybe. Not much.

2. Circle the four situations in which using good speech would be most advantageous to you. Applying for a job. Giving directions. Talking on the playground. Reciting in class. Asking for a date. Selling popcorn at a game.

3. Do you recognize good standard American English when you hear it? Yes. No. I'm not sure. I think so.

4. Do most of your teachers speak good standard American English? Yes. No. Not all of them. Usually.

5. Do you expect teachers to speak good standard American English? Yes. No. Not necessarily. Usually.

6. From what you have heard on radio and television, which two of these three people would you say generally use good standard American speech? Jack Paar. Johnny Mathis. Fibber McGee.

7. Do you speak standard American English as well as anyone in your class? Yes. No. I don't know. Some speak better.

8. Do you speak as well as most of your teachers? Yes. No. I don't know. I think so.

9. Do you speak as well as your parents speak? Yes. No I don't know.

10. Do you think your speech is *more truly standard, or general*, American English than that of your parents? Yes. No. I don't know. I'd rather not say.

11. Do you think use of a tape recorder can help you to improve speech? Yes. No. I don't know. I hope so. Not much.

12. Which of the main class activities planned for this course do you, or would you, prefer? Repeating lessons. Silent reading. Writing and discussing compositions. Brief talks.

13. Which class activity do you think will do you the most good? Repeating lessons. Silent reading. Writing and discussing compositions. Brief talks.

14. Are you applying yourself to this type of teaching to give it a fair chance? Yes. Usually. Not very well. No.

15. Do most of the other members of the class seem to be applying themselves to this method of learning? Yes. Usually. Not very well. No.

16. Have you ntoiced any improvement in the speech of others in the class recently? Yes. No. Not much. Haven't thought about it.

17. Have you noticed any improvement in your own speech recently? Yes. No. Not much. Haven't thought about it.

18. Can you think of any faulty usages that you believe you have eliminated from your speech? Yes. No.

19. Can you think of at least one or two faulty language habits you know you have and that you would like to break? Yes. No.

Circle the following choices that apply to you:

20. I think I will learn, or have learned,
more
less
the same
in this class than (as) I have in other English classes.

21. This course has helped, or will help, my listening ability to
increase greatly   remain the same   increase a little.

22. I plan to do, or have done,
more
less
the same amount of
writing in this class than (as) I usually do in other English classes.

23. I plan to do, or have done,
more
less
the same amount of
reading than (as) I usually do in other English classes.

24. This class will require, or has required,
more
less
the same amount of
self-discipline than (as) any other English class.

25. My parents
are happy
are not happy
have no opinion
about my participating in this class.

26. My friends
would
would not
like to be in this class.

27. If I had a choice
I would
would not
sign up for another class of this type.

28. I sometimes make judgments about strangers when I hear them speak on the telephone. Yes. No.

29. Complete the following fragments into good descriptive sentences making as many judgements as you can:

I don't know who called, but from what I heard I think ________

____

____

30. I don't know who called, but from what I heard I think ________

____

APPLICATION FORM FOR PART-TIME WORK

1. Name________________________Grade____School____________________

2. Year of graduation:

   Eighth grade____________Twelfth grade__________________

3. Birth date____________________Birth place______________________
   (City) (State)

4. Mother's birth place____
   (City or County) (State)

5. Average marks____

6. Attendance record, in general____________________________________

7. Previous employment (if any)____________________________________

8. Time available____

   ____

9. Minimum hourly wage acceptable____________________________________

10. References:

    Friend____

    ____

    School____

    ____

    Community____

    ____

11. Applicant's address____

    ____

12. Phone number____

13. Activities and interests______________________________________

    ____

14. Special qualifications____

    ____

    ____

APPLICATION FROM FOR PART-TIME WORK

1. Name______________ Grade____ School______________

2. Year of graduation:

Eighth grade__________ Twelfth grade______________

3. Birth date__________ Birth place______________
(city) (state)

4. Mother's birth place______________
(City or County) (State)

5. Average marks______________

6. Attendance record in general ______________

7. Previous employment (if any) ______________

____

8. Time available ______________

____

9. Minimum hourly wage acceptable ______________

10. References:

Friend ______________

____

School ______________

____

Community______________

11. Applicant's address ______________

____

12. Phone number ______________

13. Activities and interests ______________

____

14. Special qualifications ______________

____

____

THE GOLDEN SERIES OF AMERICAN ENGLISH LANGUAGE

LESSONS ON MAGNETIC TAPE

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*Key to speakers and their racial or national background: M1 - Male, Jewish; F1 - Female, Negro; M3 - Male, Scandinavian; M2 - Male, Roumanian; F2 - Female, English; F3 - Female, Negro. (All speak the dialect generally accepted as "standard" American English.)

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1962

ABSTRACT

EFFECTIVENESS OF INSTRUCTIONAL TAPES FOR CHANGING REGIONAL SPEECH PATTERNS

The purpose of this study was to develop and to test the audio-language laboratory technique as a means of helping students in northern urban areas to improve their speech, and to draw inferences from this experiment as to potentialities for continued use of the approach.

It is significant and important because helping students to use more effective speech patterns for the area in which they live meets an English problem of national interest, aids the acculturation process of large groups of sub-cultures, improves their vocational possibilities, and through tapes provides a means of coping with increased enrollment.

The Research Hypothesis was that a series of listening and repeating lessons containing motivation and explanation of English usage, recorded on tape and transmitted by earphones to students in tenth-grade English classes at Central High School, Detroit, Michigan, would help them to substitute acceptable Northern Urban speech patterns in school, business, and most social situations

for the unacceptable usages found in patterns of other regions, primarily Southern Rural.

To test for significant interactions among five factors--Group, Sex, Education of Parents, Teacher-Time, and Mental Abilities--the analysis of covariance technique was used.

Scripts and tapes were prepared for a series of fourteen thirty-minute lessons which employ a variety of teaching techniques including linguistic concepts and Skinner's theories. A special course was designed using a three-group plan in which activities of reading, speaking, and writing were rotated three days a week. The laboratory classroom contained twelve earphone booths and a recorder.

Four classes, randomly selected, were taught by two teachers, each having one experimental and one control class in the morning and afternoon. Both groups used the tape recorder for various speech activities, and both were taught alike except that, when in the booths, students in the Experimental Group heard taped lessons while those in the Control Group read the same material from scripts without hearing it.

Data were collected on two oral and two written tests and on an attitude survey, all given before and after the students received the lessons. The data from a sample which fit a seventy-two cell grid, limited by the five factors, were machine processed.

The findings showed that the Experimental Group, which used the tapes, did almost twice as well over-all as did the Control Group, and Group was significant at the .01 level for the Extempore Speech, and at the .05 level for the Business Interview, the two oral tests.

The second most significant factor for changing speech habits was shown to be Education of Parents, also highly significant at the .01 level. The third most pertinent factor is Sex (higher for girls), with significance at the .05 level. The fourth is Teacher-Time, and the fifth is Mental Abilities, neither of the latter two showing significance when partialled out alone.

There were no significant interactions in the written tests or in the Attitude Inventory, but all tests showed higher means for the Experimental Group than for the Control Group, and there were many significant interactions among factors in the Extempore Speech.

From this study one could conclude that the student with the greatest potential for changing speech patterns is a girl, either above average or below average in mental abilities, whose parents (one or both) have had some college education, and who has a morning class in which the instruction includes lessons on tape.

This experiment provides proof that tape-teaching is a sound technique and that this series of fourteen English language lessons on tape comprises an effective method for helping students to change Regional speech patterns.

AUTOBIOGRAPHICAL STATEMENT

Name: Ruth William Isbell Golden (Mrs. David L. Golden).

Birth: December 21, 1910.

Education: Mt. Pleasant, Michigan, College Training School (1920-1924); Mt. Pleasant High School (1924-1927); Central Michigan University - Bachelor of Arts Degree (1927-1929, 1930-1931); Wayne State University - Master of Arts Degree (1939-1942); Wayne State University - Doctor of Education Degree (1951, 1957-1963).

Positions: Teacher of English and Social Studies, Bay Port, Michigan (1929-1930); Teacher of English and Latin, New Haven, Michigan (1931-1935); Teacher of Speech and English, Lincoln High School, Van Dyke, Michigan (1935-1941, 1942-1943); Teacher of English and Journalism, Sidney D. Miller High School, Detroit, Michigan (1943-1947); Teacher of English and Yearbook Sponsor, Northern High School, Detroit, Michigan (1947-1953); Head of the Language Department, Northeastern High School, Detroit, Michigan (1953-1955, 1956-1958); Head of the English Department, Central High School, Detroit, Michigan (1958-1962); Head of the Language Department, Northern High School, Detroit, Michigan (1962-19--).

Recognitions: Fellowship from the Fund for the Advancement of Education (1955-1956); Teacher-of-the-Month for March (1959); Grant under Title VII of the NDEA (1960-1962).

Publications: Books: *Improving Patterns of Language Usage*, published by Wayne State University Press and the NCTE (1960); *The 3 Book*, *Communication Skills*, privately printed (1954, 1955, 1959).

Articles in: *The English Journal* (1953, 1957, 1962); *Office of Education Publication* (1962); *The Kappan* (1959, 1962); *Metropolitan Detroit Bureau of School Studies Publication* (1961); *Michigan Council Teachers of English Newsletter* (1957); *The Platform News* (1930).

Memberships: NEA; MEA; DEA; NCTE; MCTE; Detroit English Club; Alpha Delta Kappa, Detroit Women Principals Club; Organization of Department Heads and Counselors; Central High School Parent Faculty Council; Wayne State Doctoral Club.

Offices: Past International Chaplain ADK; Past President Michigan ADK; Past State President Michigan Junior Chamber of Commerce Auxiliary; Past President Highland Park Community Council; Past President Presidents Council, Central Michigan University.